

**WILMAPCO**



# Churchman's Crossing

## 2019 Update





- Study History
- Study Area
- Land Use Update
- Multi-Modal Update
- Traffic Analysis Update
- New! Safety Analysis
- 1997 Recommendations Update
- Summary

# Study History

1997- 2014





## CHURCHMAN'S CROSSING STUDY

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April 1, 1997





## PROJECT VISION

- ♦ The purpose of the Churchmans Crossing Study was to develop a transportation/land use plan that supports the vision for Churchmans Crossing. The vision was guided by three goals:
  - Enhance the area's quality of life
  - Plan for sustainable growth and development
  - Provide an opportunity for transportation choices



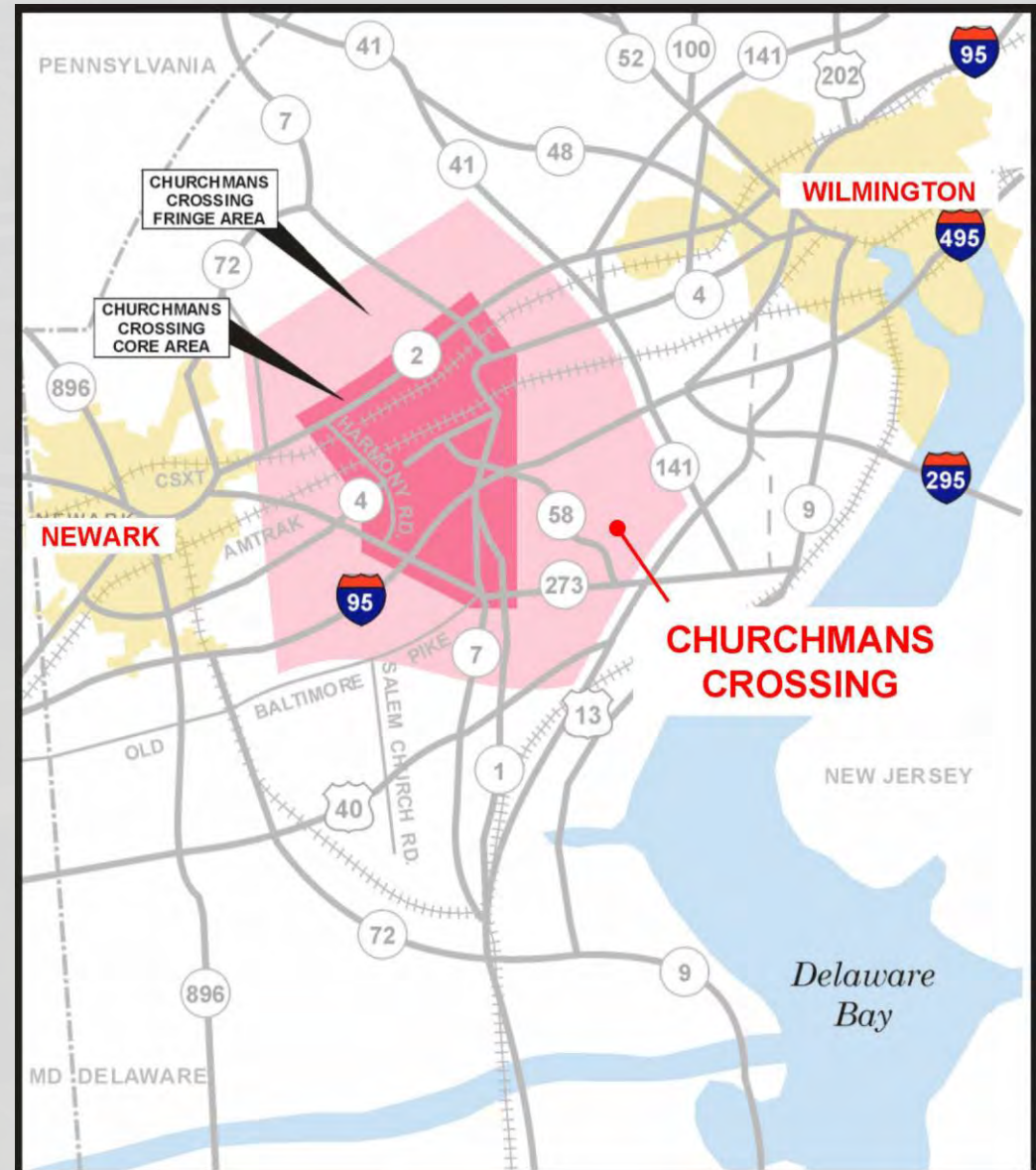
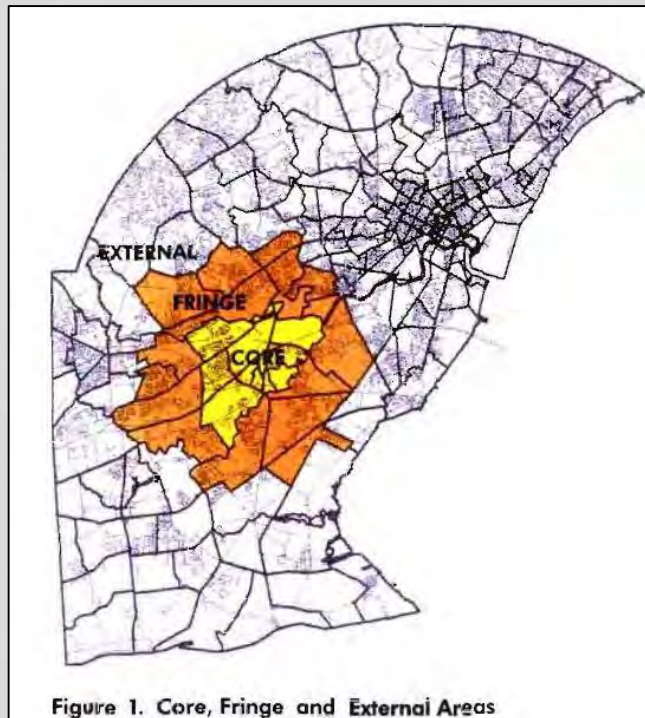


## PARTNERSHIP



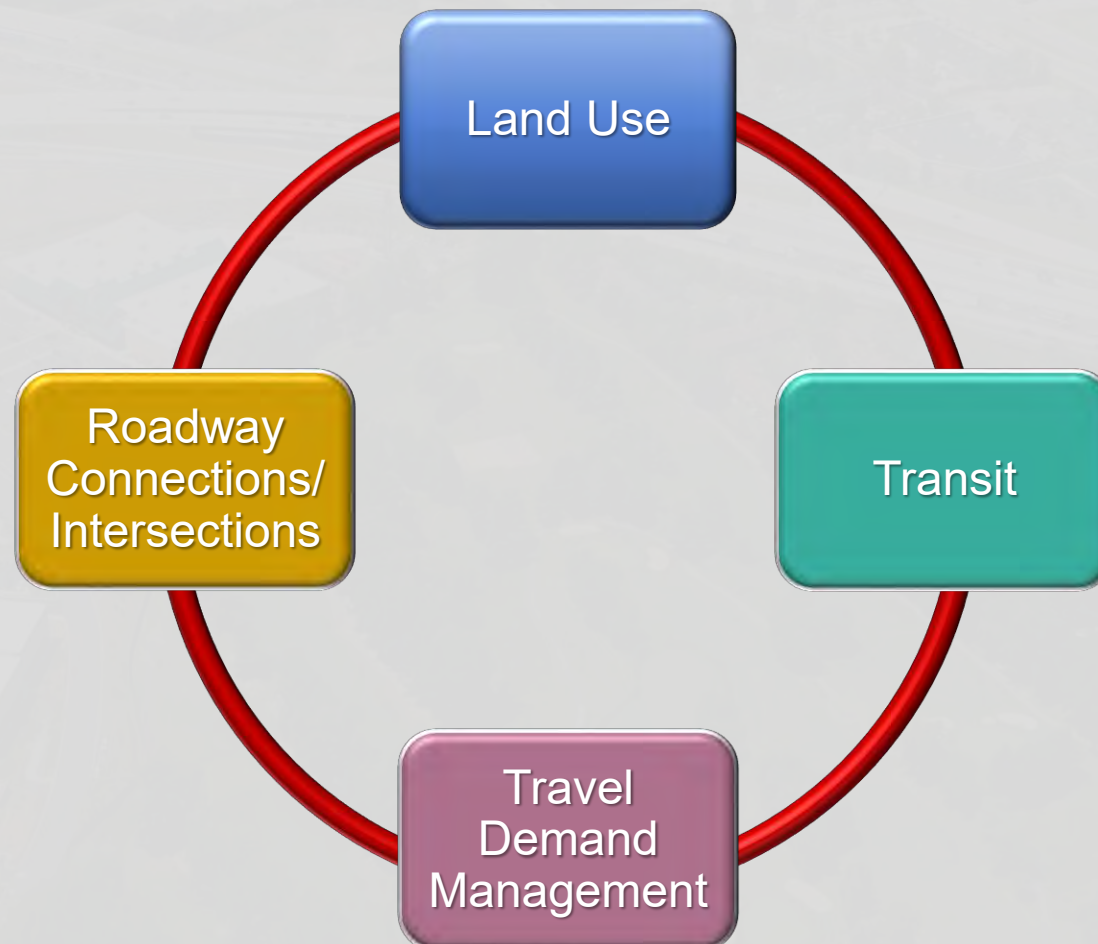


- Separated into Core, Fringe, and External Areas
  - Core: 13 TAZs
  - Fringe: 16 TAZs



- Options, findings and recommendations grouped into four components:

## ANALYSIS





## STUDY RECOMMENDATIONS

1995 - 1997

- ◆ 61 Study Recommendations Including:
  - Expanded transit service
  - Transit supportive infrastructure
  - Numerous intersection improvements
  - Travel Demand Management measures
  - Three new roadway connections
    - Churchmans Road Extended
    - Ramp from Churchmans Road to NB I-95
    - Christiana Connector
- ◆ Based on guiding principles, the program components have been monitored and analyzed to determine timing of improvement triggers.







# CHURCHMANS CROSSING

## 2004 UPDATE

September 30, 2004





## CHURCHMANS CROSSING STUDY AREA

Focused on  
“Core” Area

Churchmans  
Crossing  
Study Area

To Baltimore

To Wilmington



## SUMMARY

- Land Use Comparison ('97 vs '04)
  - Constructed
  - Planned/Committed
- Transit Update
  - Commuter Rail
  - Bus Service
  - Bus Stops
- Pedestrian & Bicycle Access
- Traffic Volumes
- Intersection LOS  
(Monitored Annually)
- Roadway Improvements





## SUMMARY

- ♦ New multi-modal facilities & services have been successfully implemented
- ♦ 2.2 MSF of development has occurred since 1997 with additional 3.4 MSF of development committed as of 2004
- ♦ New Castle County Unified Development Code (UDC) adopted in December 1997
- ♦ New Castle County Comprehensive Plan updated in 2002
- ♦ In 1997, intersections LOS were projected for year 2020. Those projected LOS's were reached in 2003 at the following intersections:
  - SR 2 / SR 7
  - SR 2 / Delaware Park Road
  - SR 4 / Harmony Road
  - SR 4 / SR 7 (JP Morgan)
  - SR 4 / SR 7 (Stanton Split)
  - SR 273 / Harmony Road
  - SR 273 / Chapman Road





- 9 intersections studied each year between 2005 and 2014
- Level of Service (LOS) and delay determined using
  - Critical Lane Volume (CLV)
  - Highway Capacity Software (HCS)
  - Synchro
- Flat growth, or slight declines in traffic, in most locations, especially during the recession

| Churchmans Crossing Volume and<br>Level of Service Comparison - AM Peak Hour   |   |               |               |               |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        | February 2012  |
|--|---|---------------|---------------|---------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|--|
| <b>AM</b>  |   |               |               |               |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |  |
| <b>NOTE:</b>   |   |               |               |               |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |  |
| Volumes shown in the following table represent the peak hour volumes at each intersection (e.g., they are not the peak volumes of an entire corridor). Therefore, the peak hours may vary among intersections, even between adjacent intersections. For example, the peak hour at SR 2 / Harmony Road was found to occur between 4:30 and 5:30 PM. However, the nearby intersection at SR 4 / Harmony Road was found to occur between 4:45 and 5:45 PM. As a result, the volumes in the following table may not balance between intersections. |   |               |               |               |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |  |
| <b>SR 2 / HARMONY ROAD</b>   |   |               |               |               |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        | # 1  |
|  |   | 1993<br>Count | 1997<br>Count | 2000<br>Count | 2001<br>(Feb)<br>Count | 2001<br>(Oct)<br>Count | 2002<br>(Oct)<br>Count | 2003<br>(Oct)<br>Count | 2004<br>(Oct)<br>Count | 2005<br>(Oct)<br>Count | 2006<br>(Oct)<br>Count | 2007<br>(Nov)<br>Count | 2008<br>(Oct)<br>Count | 2009<br>(Oct)<br>Count | 2010<br>(Oct)<br>Count | 2011<br>(Oct)<br>Count | Notes  |
| NB   | L | 341           | 518           | 253           | 262                    | 220                    | 279                    | 244                    | 259                    | 230                    | 234                    | 228                    | 224                    | 195                    | 225                    | 217                    | Eastbound and westbound left-turn signal phasing was converted from permitted-protected to selective only prior to 10/11 counts. |
| Harmony  | R | 310           | 607           | 419           | 321                    | 417                    | 545                    | 456                    | 547                    | 448                    | 524                    | 676                    | 507                    | 422                    | 480                    | 428                    |  |
| SB   | L |               |               |               |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |  |
|  | T |               |               |               |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |  |
|  | R |               |               |               |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |  |
| EB   | L | 1077          | 1673          | 1105          | 963                    | 1,010                  | 1,155                  | 1,125                  | 1,063                  | 1,081                  | 1,186                  | 1,141                  | 1,013                  | 941                    | 869                    | 847                    |  |
| SR 2   | R | 689           | 587           | 507           | 462                    | 355                    | 682                    | 426                    | 432                    | 355                    | 417                    | 415                    | 460                    | 414                    | 472                    | 471                    |  |
|  | L | 506           | 536           | 723           | 604                    | 537                    | 651                    | 618                    | 616                    | 548                    | 572                    | 569                    | 503                    | 520                    | 546                    | 571                    |  |
| WB   | T | 863           | 985           | 956           | 902                    | 929                    | 883                    | 930                    | 981                    | 778                    | 897                    | 877                    | 880                    | 812                    | 840                    | 840                    |  |
| SR 2   | R |               |               |               |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |                        |  |
| CLV LOS  |   | D             | F             | E             | C                      | C                      | D                      | D                      | D                      | C                      | D                      | D                      | C                      | C                      | C                      | C                      |  |
| v/c  |   | 0.99          | 1.11          | 0.93          | 0.81                   | 0.77                   | 0.90                   | 0.86                   | 0.85                   | 0.80                   | 0.85                   | 0.83                   | 0.75                   | 0.72                   | 0.72                   | 0.73                   |  |
| HCS LOS  |   | N/A           | D             | C             | C                      | B                      | D                      | C                      | B                      | C                      | C                      | B                      | B                      | B                      | B                      | D                      |  |
| Delay  |   | N/A           | 47            | 34            | 26                     | 18                     | 38                     | 24                     | 20                     | 21                     | 24                     | 18                     | 17                     | 19                     | 47                     | 47                     |  |
| Synchro LOS  |   | N/A           | D             | C             | B                      | B                      | B                      | B                      | B                      | B                      | B                      | B                      | B                      | B                      | B                      | D                      |  |
| Delay  |   | N/A           | 40            | 21            | 15                     | 14                     | 19                     | 15                     | 15                     | 15                     | 14                     | 17                     | 16                     | 16                     | 17                     | 40                     |  |

\*SR 2 intersections analyzed as pre-timed in SYNCHRO due to large distance between signals.

Table 1  
AM Peak Hour  
Intersection Level of Service (LOS) Comparison  
For All Intersections Experiencing a Change in AM Peak LOS

|  | Fall 2011 LOS<br>(Change in LOS from 2010 to 2011) |         |         |
|--|--|---------|---------|
|  | CLV  | HCS     | SYNCHRO |
| SR2 / Harmony Road (1)   | C ( )  | D ( - ) | D ( - ) |
| SR 7 / SR 4 (Stanton Split) (4)  | D ( - )  | C ( )   | D ( )   |
| SR 4 / Harmony Road (8)  | E ( + )  | D ( + ) | D ( + ) |
| SR 273 / Harmony Road (14)   | E ( )  | D ( - ) | D ( - ) |
| SR 273 / Chapman Road / Eagle Run Road (15)                                | E ( - )  | D ( )   | D ( )   |
| SR 273 / Old Baltimore Pike (16)   | D ( )  | C ( + ) | C ( + ) |
| SR 273 / SR 7 (17)   | C ( + )  | E ( + ) | F ( )   |
| SR 2 / Red Mill Road / Polly Drummond Hill Road (22)                       | D ( + )  | D ( + ) | D ( + ) |
| ( ) No change in LOS    ( + ) Improved by 1 LOS    ( - ) Declined by 1 LOS |  |         |         |



- Document the existing land use, multi-modal infrastructure and services, traffic conditions, and safety in the Churchman's Crossing area in 2019 (or the most recent available data)
- Compare current information with 1997 recommendations and 2004 update, where possible



- Enable regional decision makers to monitor the on-going status of the area's transportation system
- Inform near- and long-term decisions to enhance the area's transportation system and region at large
- Provide database of land use & transportation information for team(s) working on the next phase of Churchman's Crossing planning

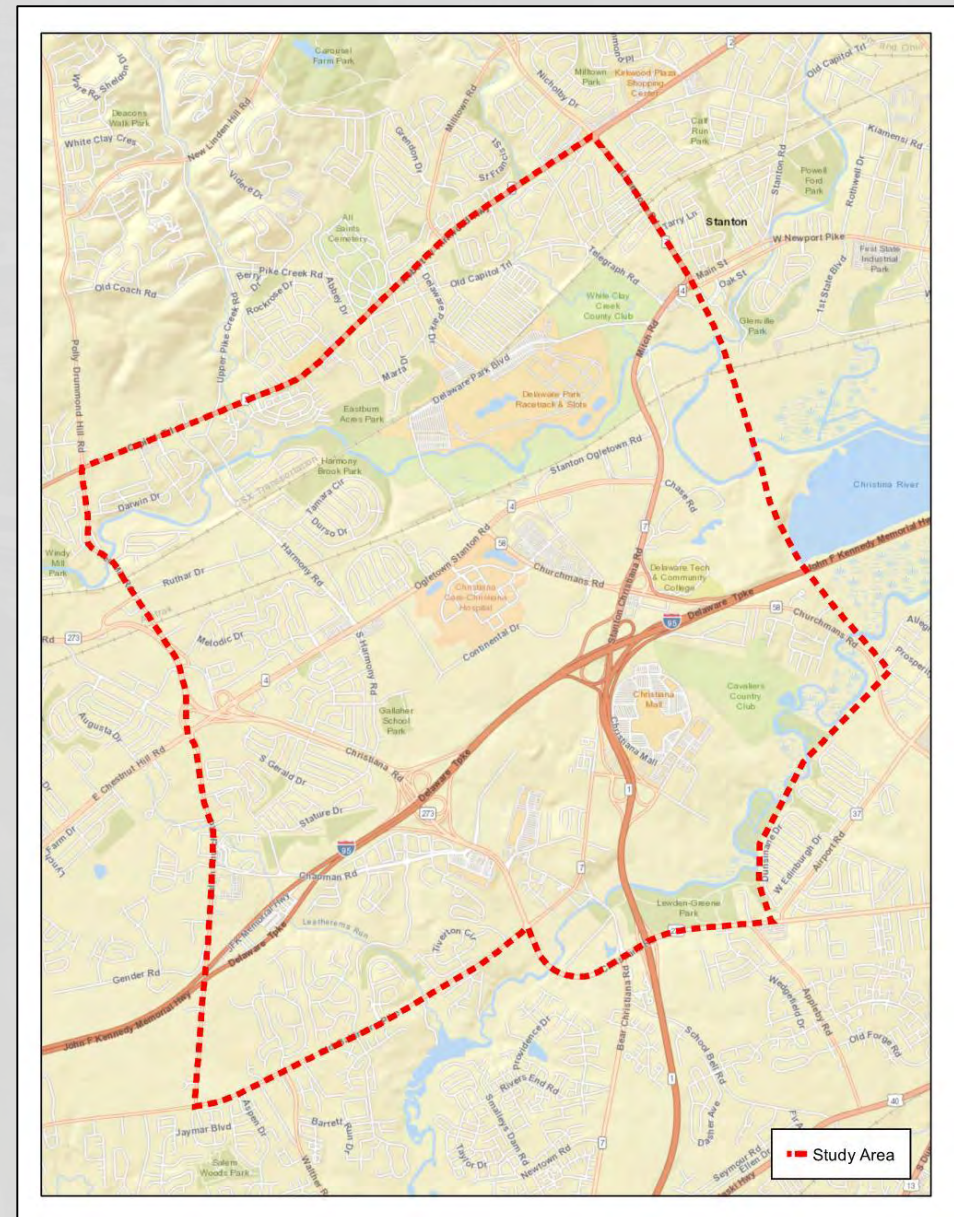


The background of the slide is a blue-tinted aerial photograph of a study area. It shows a complex network of roads, including a multi-lane highway with several overpasses and interchanges. There are also smaller roads, parking lots, and some commercial or industrial buildings scattered throughout the landscape. The overall scene is a dense, developed area with significant infrastructure.

# Study Area

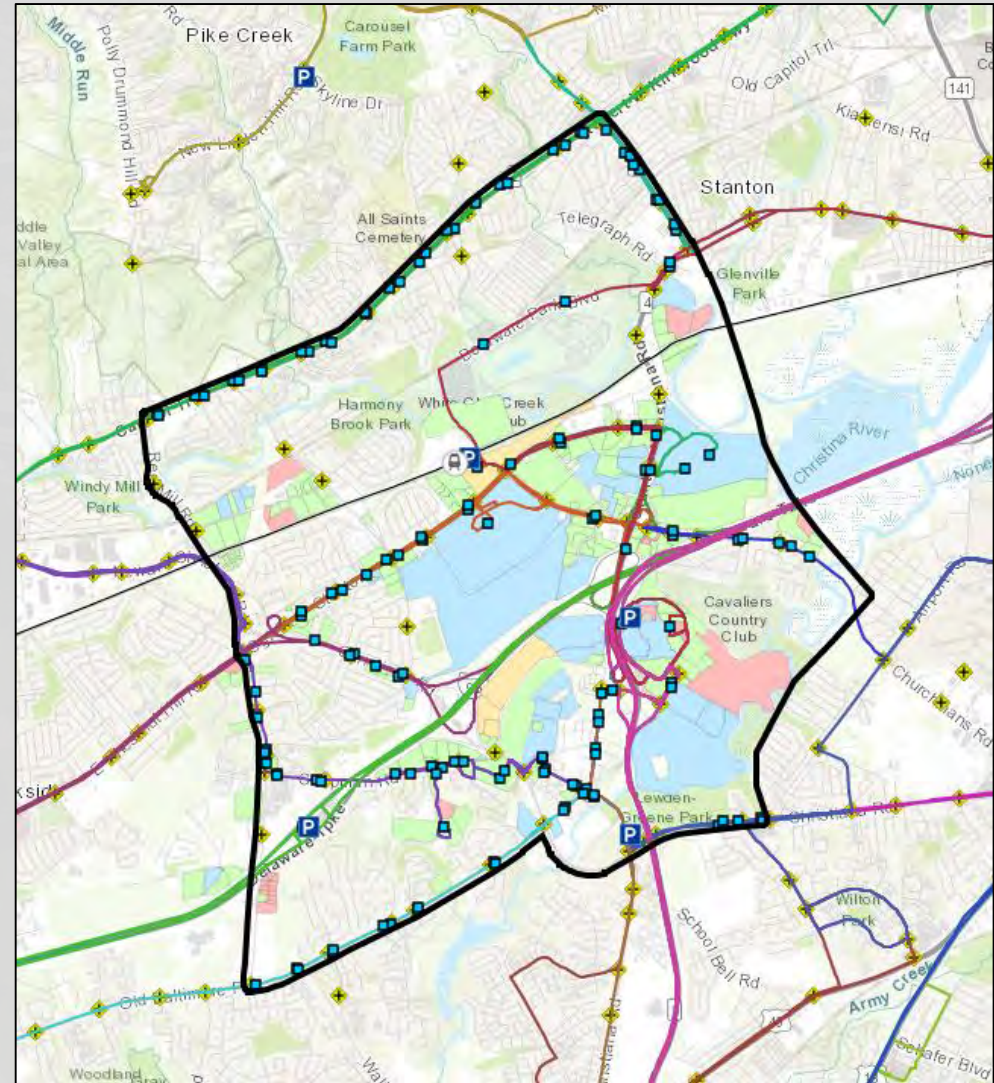


- Same as 2004 Study Area
- Roughly corresponds to “Core” 1997 Area





- ArcGIS
- Spatial data layers
  - Rail facilities & ridership
  - Bus facilities & ridership
  - Park & Ride facilities
  - Intersection crash data
  - Intersection LOS
  - AADT
  - Arterial travel times
  - Pedestrian and bicycle facilities
  - Land use data



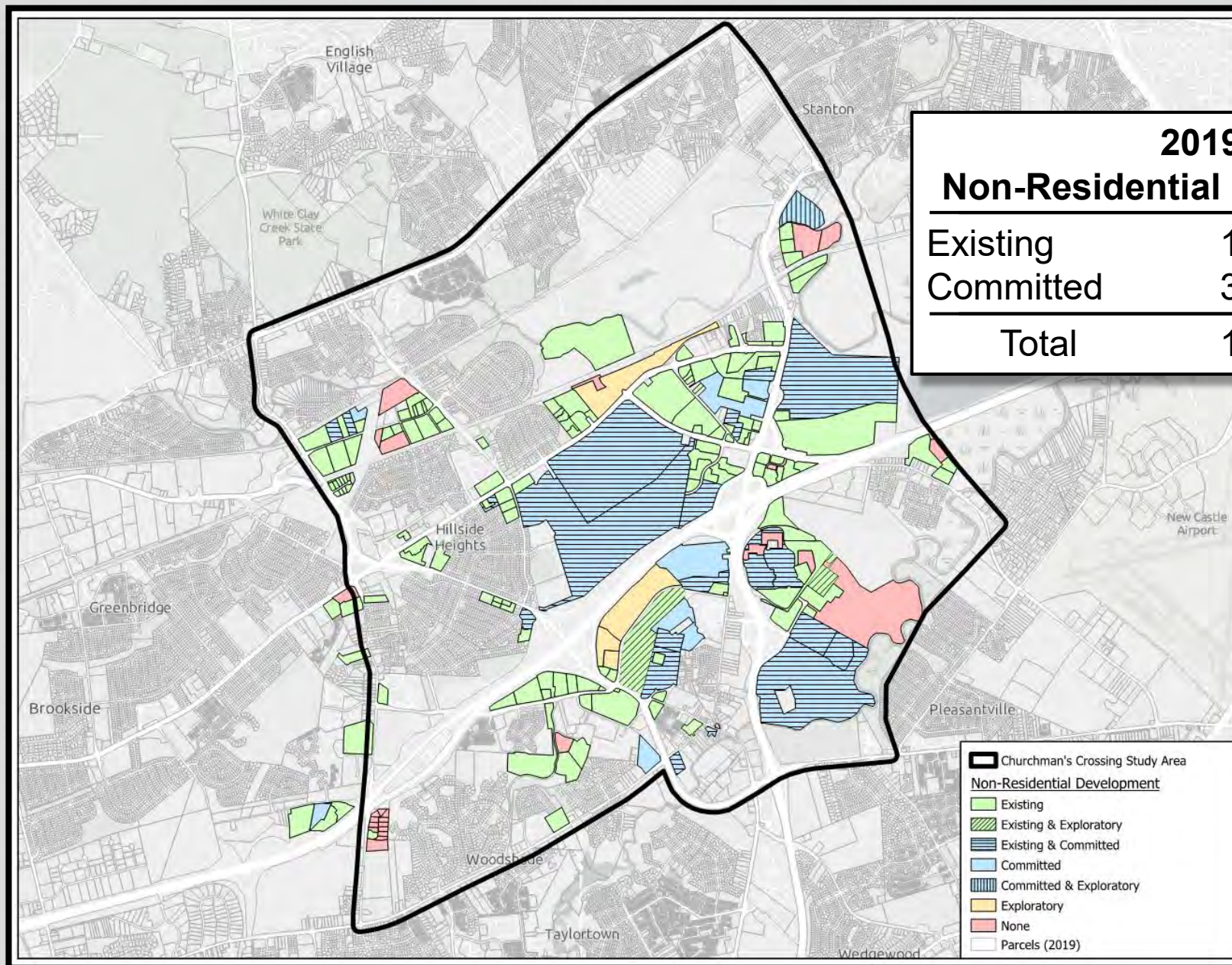


# Land Use Update

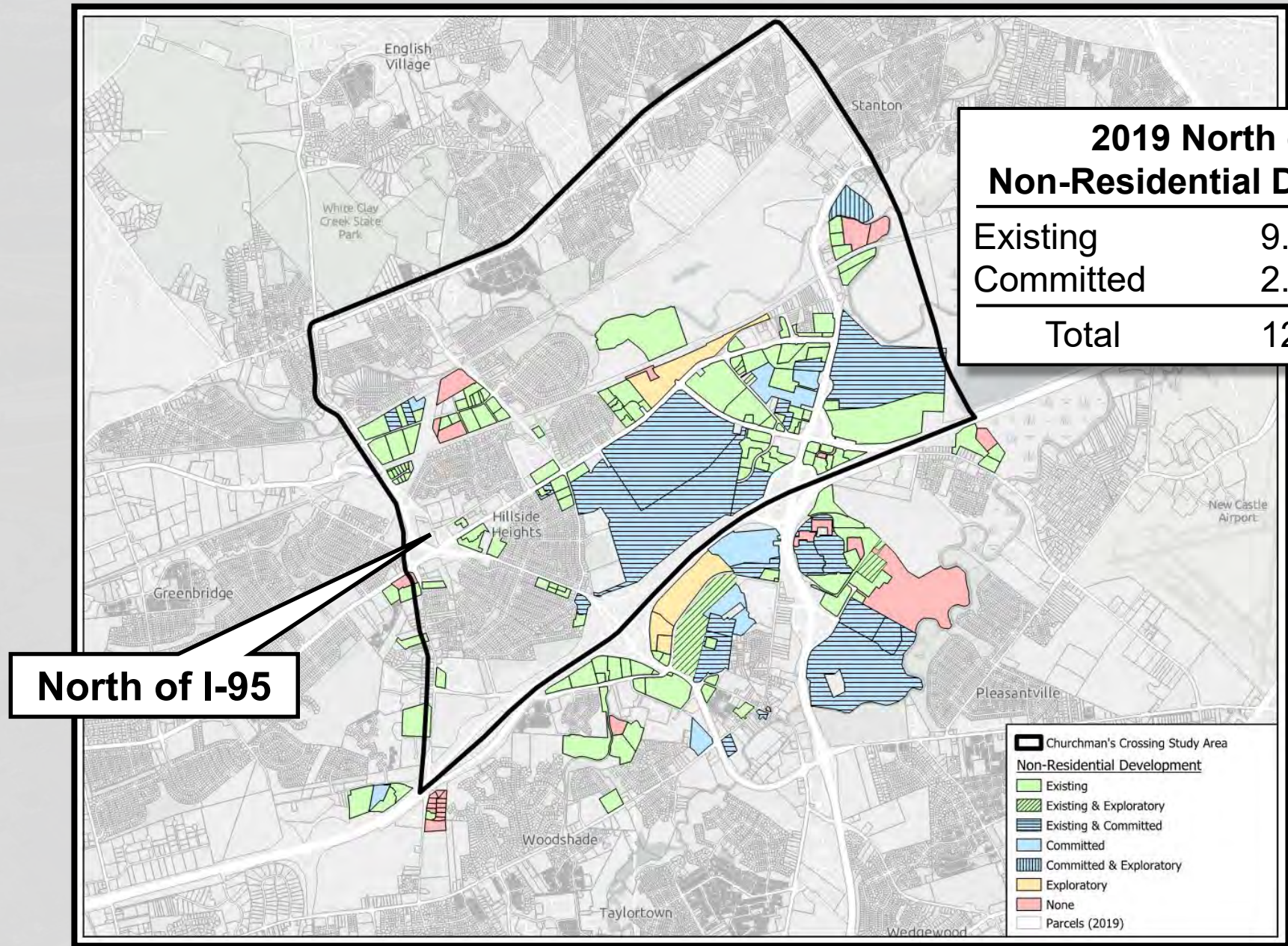
**Multi-Modal Update  
Traffic Analysis Update  
New! Safety Analysis**



# Total Non-Residential Development







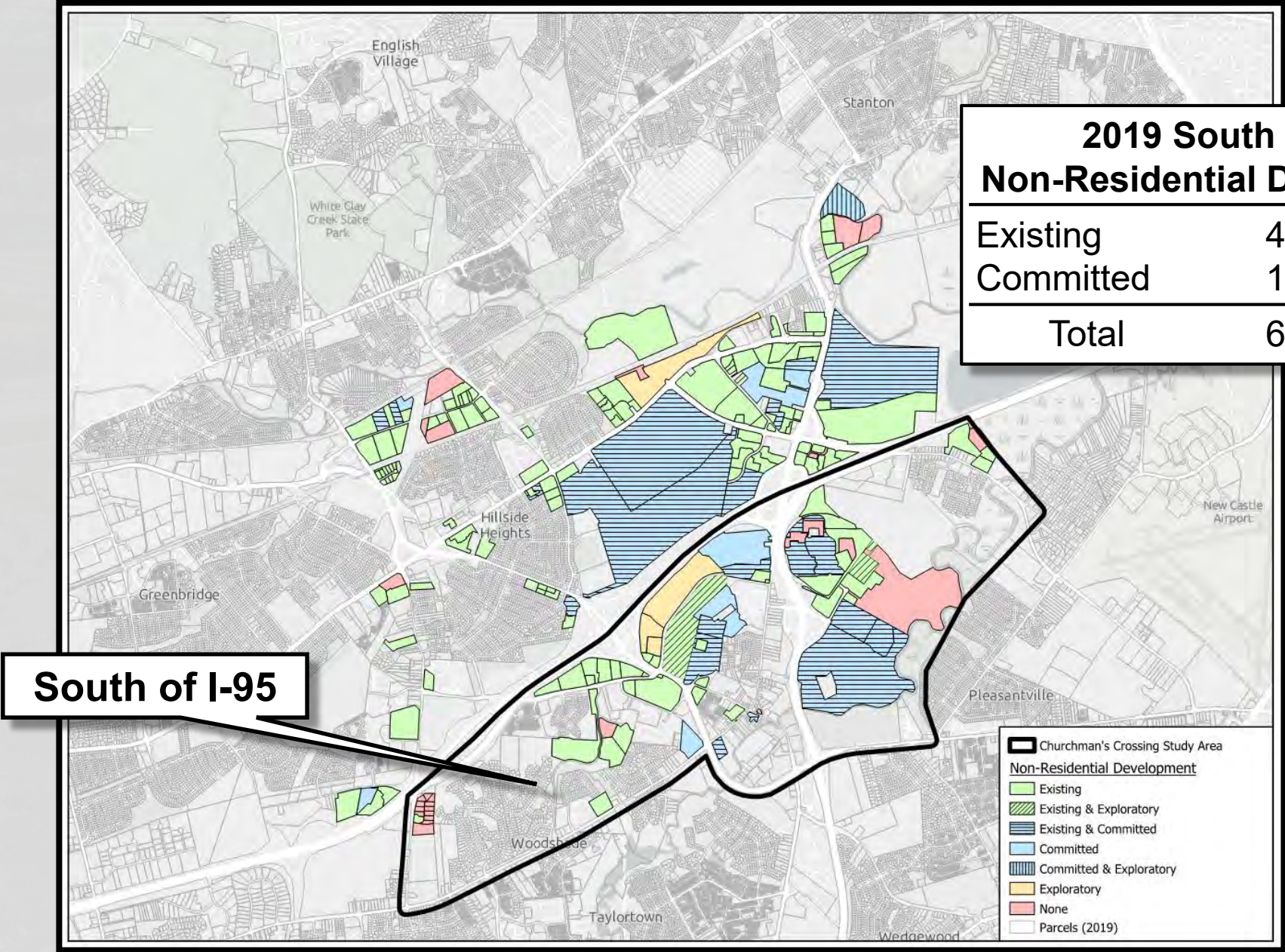
| 2019 North of I-95<br>Non-Residential Development |          |
|---|----------|
| Existing  | 9.6 MSF  |
| Committed   | 2.5 MSF  |
| Total   | 12.1 MSF |



| Non-Residential Development  | 1997             |                                    |                                | 2004             |                                    |                                | 2009             |                                    |                                | 2019             |                                    |                                |
|--|------------------|------------------------------------|--------------------------------|------------------|------------------------------------|--------------------------------|------------------|------------------------------------|--------------------------------|------------------|------------------------------------|--------------------------------|
|  | Existing         | Committed Development (Additional) | Exploratory Plans (Additional) | Existing         | Committed Development (Additional) | Exploratory Plans (Additional) | Existing         | Committed Development (Additional) | Exploratory Plans (Additional) | Existing         | Committed Development (Additional) | Exploratory Plans (Additional) |
| Stanlan/Distinctive Auto Care  | -                | -                                  | -                              | -                | -                                  | -                              | -                | -                                  | -                              | -                | 11,400                             | 500                            |
| AAA Boulevard/Delaware Motor Club  | 13,000           | -                                  | -                              | 13,000           | -                                  | -                              | 13,000           | -                                  | -                              | 13,500           | -                                  | -                              |
| Delaware Technical Community College   | 228,900          | -                                  | -                              | 230,700          | -                                  | -                              | 230,700          | -                                  | -                              | 278,900          | -                                  | -                              |
| JP Morgan Christiana Center <sup>(1)(2)(4)</sup>   | 539,200          | 750,800                            | -                              | 644,200          | 645,800                            | -                              | 672,900          | 617,100                            | -                              | 672,900          | 617,100                            | -                              |
| Old Route 7 North / Stanton Industrial Park  | 107,300          | -                                  | -                              | 107,300          | -                                  | -                              | 107,300          | -                                  | -                              | 119,900          | -                                  | -                              |
| Old Route 7 South / Stanton Industrial Park  | 113,600          | 20,700                             | -                              | 113,600          | 20,700                             | -                              | 113,600          | 19,000                             | -                              | 112,000          | -                                  | -                              |
| Bank of America at Christiana Center aka MBNA Christiana Center aka MBNA Westgate <sup>(1)</sup> | 541,300          | 1,217,200                          | -                              | 672,900          | 1,085,600                          | -                              | 644,500          | 1,114,000                          | -                              | 771,100          | 1,005,600                          | -                              |
| Christiana Executive Campus  | 322,300          | 244,000                            | -                              | 566,300          | -                                  | -                              | 717,000          | -                                  | -                              | 717,600          | -                                  | -                              |
| Christiana Hospital <sup>(1)(2)</sup>  | 1,186,700        | 73,700                             | -                              | 1,561,195        | 525,946                            | -                              | 2,150,900        | 80,900                             | -                              | 2,166,600        | 464,400                            | -                              |
| Nationwide/Provident Mutual <sup>(1)</sup>   | 159,000          | 50,000                             | -                              | 159,000          | 50,000                             | -                              | 159,000          | 50,000                             | -                              | 167,400          | 41,600                             | -                              |
| Omega Shops  | 41,400           | -                                  | -                              | 41,400           | -                                  | -                              | 41,400           | -                                  | -                              | 41,400           | -                                  | -                              |
| Fairplay Train Station/Delaware Park Hotel & Clubhouse   | -                | -                                  | -                              | -                | 34,600                             | -                              | 34,600           | -                                  | -                              | 34,600           | -                                  | 95,100                         |
| Harmony Industrial Park  | 906,300          | 263,000                            | -                              | 1,170,800        | 48,000                             | -                              | 1,170,800        | 48,000                             | 50,600                         | 1,180,500        | 96,500                             | -                              |
| Harmony Plaza/Harmony Professional Center  | 86,600           | 10,600                             | -                              | 86,600           | 10,600                             | -                              | 97,200           | -                                  | -                              | 100,200          | -                                  | -                              |
| MBNA Ogletown North / Iron Hill Corporate Center <sup>(2)</sup>                                  | 321,100          | -                                  | -                              | 321,100          | -                                  | -                              | 321,100          | -                                  | -                              | 305,800          | -                                  | -                              |
| Omega Professional Center Area <sup>(3)</sup>  | 217,300          | 36,000                             | -                              | 253,300          | -                                  | -                              | 253,300          | 27,300                             | -                              | 287,000          | -                                  | -                              |
| Red Mill Industrial Park <sup>(3)</sup>  | 79,000           | -                                  | -                              | 79,000           | -                                  | -                              | 79,000           | -                                  | -                              | 79,000           | -                                  | -                              |
| Alternative Living Services East/TutorTime   | 10,000           | 71,600                             | -                              | 107,600          | -                                  | -                              | 107,600          | -                                  | -                              | 115,600          | 2,300                              | -                              |
| Holiday Inn/Hampton Inn  | 116,400          | -                                  | -                              | 116,400          | -                                  | -                              | 122,300          | 8,000                              | -                              | 122,300          | 8,000                              | -                              |
| Islamic Society of Delaware  | 4,000            | -                                  | -                              | 4,000            | 10,100                             | -                              | 7,400            | 6,600                              | -                              | 14,100           | -                                  | -                              |
| MBNA Ogletown South / Iron Hill Corporate Center <sup>(2)</sup>                                  | 281,700          | -                                  | -                              | 281,700          | -                                  | -                              | 281,700          | -                                  | -                              | 167,200          | -                                  | -                              |
| McIntosh Plaza Area  | 79,500           | -                                  | -                              | 79,600           | -                                  | -                              | 79,600           | -                                  | -                              | 72,200           | -                                  | -                              |
| Salem Village Square   | 31,700           | -                                  | -                              | 31,700           | -                                  | -                              | 31,700           | -                                  | -                              | 31,700           | -                                  | -                              |
| Neuroscience & Surgery Institute of DE   | -                | -                                  | -                              | -                | -                                  | -                              | -                | -                                  | -                              | 101,300          | -                                  | -                              |
| Metro Center / Stafford Metro Center <sup>(3)</sup>  | 272,500          | -                                  | -                              | 272,500          | -                                  | -                              | 272,500          | -                                  | -                              | 272,500          | -                                  | -                              |
| Apex Medical Center  | -                | -                                  | -                              | -                | -                                  | -                              | -                | -                                  | -                              | 63,700           | -                                  | -                              |
| Association Plan Concepts, Inc.  | -                | -                                  | -                              | -                | -                                  | -                              | -                | -                                  | -                              | 21,500           | -                                  | -                              |
| Center Pointe Plaza <sup>(5)</sup>   | 248,000          | 13,300                             | -                              | 255,300          | 187,900                            | -                              | 443,200          | -                                  | -                              | 443,000          | -                                  | -                              |
| Churchman Village/Metro Properties/World Properties  | 89,300           | -                                  | -                              | 134,300          | -                                  | -                              | 135,800          | 16,700                             | -                              | -                | -                                  | -                              |
| Churchmans Shopping Center   | 31,600           | -                                  | -                              | 31,600           | -                                  | -                              | 31,600           | -                                  | -                              | 37,600           | -                                  | -                              |
| Delaware Contractors Association   | -                | -                                  | -                              | -                | -                                  | -                              | -                | -                                  | -                              | 9,000            | -                                  | -                              |
| Endoscopy Center of Delaware   | -                | -                                  | -                              | -                | -                                  | -                              | -                | -                                  | -                              | 6,800            | -                                  | -                              |
| Hotel/Restaurant Cluster <sup>(2)</sup>  | 104,100          | 800                                | 1,200                          | 135,900          | 800                                | -                              | 134,600          | 89,200                             | -                              | 300,300          | 8,800                              | -                              |
| Marvel Plaza/Centurian Plaza/Catawba Property  | -                | 20,300                             | -                              | 9,000            | 87,300                             | -                              | 84,300           | 12,000                             | -                              | 29,300           | 12,000                             | -                              |
| Metro Business Park/SPCA Area <sup>(2)</sup>   | -                | -                                  | -                              | -                | -                                  | -                              | 12,800           | -                                  | 175,900                        | 15,600           | 197,600                            | -                              |
| Metro Medical Condo  | -                | -                                  | -                              | -                | -                                  | -                              | -                | -                                  | -                              | 45,000           | -                                  | -                              |
| Orthopaedic Properties LLC   | -                | -                                  | -                              | -                | -                                  | -                              | -                | -                                  | -                              | 15,100           | -                                  | -                              |
| Panzer Medical Pavillion   | -                | -                                  | -                              | -                | -                                  | -                              | -                | -                                  | -                              | 6,400            | -                                  | -                              |
| Rockford Center Area   | 83,900           | -                                  | -                              | 83,900           | -                                  | -                              | 101,400          | -                                  | -                              | 87,100           | -                                  | -                              |
| Twin "C" Lane Area   | 18,500           | -                                  | -                              | 30,500           | 80,200                             | -                              | 94,200           | -                                  | -                              | 91,700           | -                                  | -                              |
| 1028 Old Churchmans  | -                | -                                  | -                              | 9,200            | -                                  | 120,000                        | -                | -                                  | -                              | 9,000            | -                                  | -                              |
| Christiana Corporate Center  | 128,000          | 193,200                            | -                              | 278,000          | 43,200                             | -                              | 278,000          | 43,200                             | -                              | 278,000          | 43,200                             | -                              |
| Little Sisters of the Poor   | 68,300           | -                                  | -                              | 68,300           | -                                  | -                              | 68,300           | -                                  | -                              | 68,300           | -                                  | -                              |
| Newark Church of Christ  | 33,800           | -                                  | -                              | 33,800           | -                                  | -                              | 33,800           | -                                  | -                              | 33,800           | -                                  | -                              |
| Plaza Four/SCR Industrial Area   | 78,400           | -                                  | -                              | 78,400           | -                                  | -                              | 78,400           | -                                  | -                              | 128,400          | -                                  | -                              |
| <b>North of I-95 Subtotal</b>  | <b>6,542,700</b> | <b>2,965,200</b>                   | <b>1,200</b>                   | <b>8,062,095</b> | <b>2,830,746</b>                   | <b>120,000</b>                 | <b>9,205,500</b> | <b>2,132,000</b>                   | <b>226,500</b>                 | <b>9,634,900</b> | <b>2,508,500</b>                   | <b>95,600</b>                  |

- (1) Traffic Mitigation Agreement in place to reduce the number of vehicles traveling to the site
- (2) Figure shown does not include square feet for parking structures
- (3) Square feet of some existing buildings unknown
- (4) Also 129,000 committed square feet since 1997, with no recorded building plans
- (5) Also 280,000 committed square feet in 1997, with no recorded building plans
- (6) The recorded plans do not show all committed GFA (Christiana Fashion Center) or existing GFA (Comcast/Pepco/Conectiv Operations Center)
- (7) Figure shown includes square feet for outdoor seating areas
- (8) Christiana Corner property purchased by DeIDOT in 2002
- (9) Previous updates included this non-residential development in the north of I-95 group







| Non-Residential Development   | 1997             |                                    |                                | 2004             |                                    |                                | 2009             |                                    |                                | 2019             |                                    |                                |
|---|------------------|------------------------------------|--------------------------------|------------------|------------------------------------|--------------------------------|------------------|------------------------------------|--------------------------------|------------------|------------------------------------|--------------------------------|
|   | Existing         | Committed Development (Additional) | Exploratory Plans (Additional) | Existing         | Committed Development (Additional) | Exploratory Plans (Additional) | Existing         | Committed Development (Additional) | Exploratory Plans (Additional) | Existing         | Committed Development (Additional) | Exploratory Plans (Additional) |
| Four Points by Sheraton / Comfort Suites                                      | 32,000           | 2,000                              | -                              | 32,000           | 18,900                             | -                              | 32,000           | 19,900                             | 13,500                         | 69,000           | 100                                | -                              |
| Christiana Corner Area <sup>(8)</sup>   | -                | -                                  | 118,900                        | -                | 140,400                            | -                              | -                | 140,400                            | -                              | -                | 140,400                            | -                              |
| Peddlers Village  | 63,300           | -                                  | -                              | 63,300           | -                                  | -                              | 63,300           | -                                  | -                              | 63,300           | -                                  | -                              |
| 273 office complex  | 74,000           | -                                  | -                              | 74,000           | -                                  | -                              | 74,000           | -                                  | -                              | 74,000           | -                                  | -                              |
| Promenade at Christiana/Sears Eagle Run Unit                                  | 327,400          | -                                  | -                              | 327,400          | -                                  | -                              | 286,500          | 160,400                            | -                              | -                | -                                  | 403,100                        |
| Market Place at Christiana/Industrial Rentals Property/Faith City             | -                | 21,200                             | -                              | -                | 21,200                             | 176,000                        | -                | 303,000                            | -                              | -                | 299,600                            | -                              |
| County Commerce Office Park <sup>(9)</sup>                                    | 45,000           | -                                  | 132,000                        | 45,000           | -                                  | -                              | 45,000           | 42,000                             | -                              | 175,700          | -                                  | -                              |
| Christiana Industrial Park  | 5,000            | -                                  | -                              | 5,000            | -                                  | -                              | 5,000            | -                                  | -                              | 5,000            | -                                  | -                              |
| 225 Old Baltimore Pike  | -                | -                                  | -                              | -                | -                                  | -                              | -                | -                                  | -                              | 17,500           | -                                  | -                              |
| Christiana Town Center (273 Mall)   | -                | 455,800                            | -                              | 346,400          | 106,400                            | -                              | 424,800          | 228,000                            | -                              | 433,700          | 217,100                            | -                              |
| DP&L / Bob Evans / Hawthorn Suites <sup>(1)</sup>                             | 8,500            | 8,000                              | -                              | 45,900           | -                                  | -                              | 45,900           | -                                  | -                              | 43,400           | -                                  | 31,500                         |
| Christiana Medical Center Faith City <sup>(3)</sup>                           | 29,400           | -                                  | -                              | 29,400           | -                                  | -                              | 65,200           | 21,200                             | -                              | 69,600           | 21,200                             | -                              |
| Christiana Fire Co. East  | -                | -                                  | -                              | -                | -                                  | -                              | -                | -                                  | -                              | -                | 3,600                              | -                              |
| Christiana Fashion Center <sup>(6)(7)</sup>                                   | -                | -                                  | 910,000                        | -                | -                                  | -                              | -                | 915,000                            | 306,500                        | 501,000          | 376,900                            | -                              |
| Christiana Retail Center I  | -                | 292,600                            | -                              | 308,800          | -                                  | -                              | 308,800          | -                                  | -                              | 308,900          | -                                  | 1,900                          |
| Christiana Retail Center II   | -                | -                                  | -                              | -                | -                                  | 360,700                        | -                | -                                  | -                              | -                | -                                  | -                              |
| Christiana Mall   | 1,103,000        | -                                  | -                              | 1,103,000        | -                                  | -                              | 1,182,900        | 181,900                            | -                              | 1,464,400        | 102,500                            | -                              |
| University Plaza Office Park Area <sup>(3)</sup>                              | 449,100          | -                                  | -                              | 449,100          | 49,800                             | -                              | 498,900          | -                                  | -                              | 629,300          | -                                  | -                              |
| Christiana Fire Co. West  | -                | -                                  | -                              | -                | -                                  | -                              | 16,118           | -                                  | -                              | 16,100           | 16,100                             | -                              |
| Comcast/Pepco/Conectiv Operations Center Area <sup>(6)</sup>                  | 357,700          | -                                  | -                              | 357,700          | -                                  | -                              | 357,700          | -                                  | -                              | 389,700          | -                                  | 1,200                          |
| PEPCO / Comcast / Conectiv (Delmarva Capital Investments) / Delmarva Services | 236,500          | -                                  | 354,100                        | 236,500          | -                                  | -                              | 236,500          | -                                  | -                              | 236,800          | -                                  | -                              |
| University Plaza Shopping Center Area   | 283,700          | -                                  | -                              | 284,300          | -                                  | -                              | 310,600          | -                                  | -                              | 260,500          | -                                  | -                              |
| <b>South of I-95 Subtotal</b>   | <b>3,014,600</b> | <b>779,600</b>                     | <b>1,515,000</b>               | <b>3,707,800</b> | <b>336,700</b>                     | <b>536,700</b>                 | <b>3,953,218</b> | <b>2,011,800</b>                   | <b>320,000</b>                 | <b>4,757,900</b> | <b>1,177,500</b>                   | <b>437,700</b>                 |

- (1) Traffic Mitigation Agreement in place to reduce the number of vehicles traveling to the site
- (2) Figure shown does not include square feet for parking structures
- (3) Square feet of some existing buildings unknown
- (4) Also 129,000 committed square feet since 1997, with no recorded building plans
- (5) Also 280,000 committed square feet in 1997, with no recorded building plans
- (6) The recorded plans do not show all committed GFA (Christiana Fashion Center) or existing GFA (Comcast/Pepco/Conectiv Operations Center)
- (7) Figure shown includes square feet for outdoor seating areas
- (8) Christiana Corner property purchased by DelDOT in 2002
- (9) Previous updates included this non-residential development in the north of I-95 group



## Million Square Feet (MSF) Non-Residential Development

| Year | Existing | Committed | Exploratory | Existing + Committed |
|------|----------|-----------|-------------|----------------------|
| 1997 | 9.6      | 3.7       | 1.5         | 13.3                 |
| 2004 | 11.8     | 3.2       | 0.7         | 14.9                 |
| 2009 | 13.2     | 4.1       | 0.5         | 17.3                 |
| 2019 | 14.4     | 3.7       | 0.5         | 18.1                 |

- **4.8 MSF developed 1997 to 2019**
- Same amount of committed non-residential development (3.7 MSF) in 2019 as in 1997
  - Large committed developments: JP Morgan (0.6 MSF), Bank of America (1.0 MSF), Christiana Hospital (0.4 MSF), Market Place (0.3 MSF), Christiana Town Center (0.2 MSF), Christiana Fashion Center (0.4 MSF)



# \*Additional Non-Residential Development (on NCC website, but not included in non-residential database layer)

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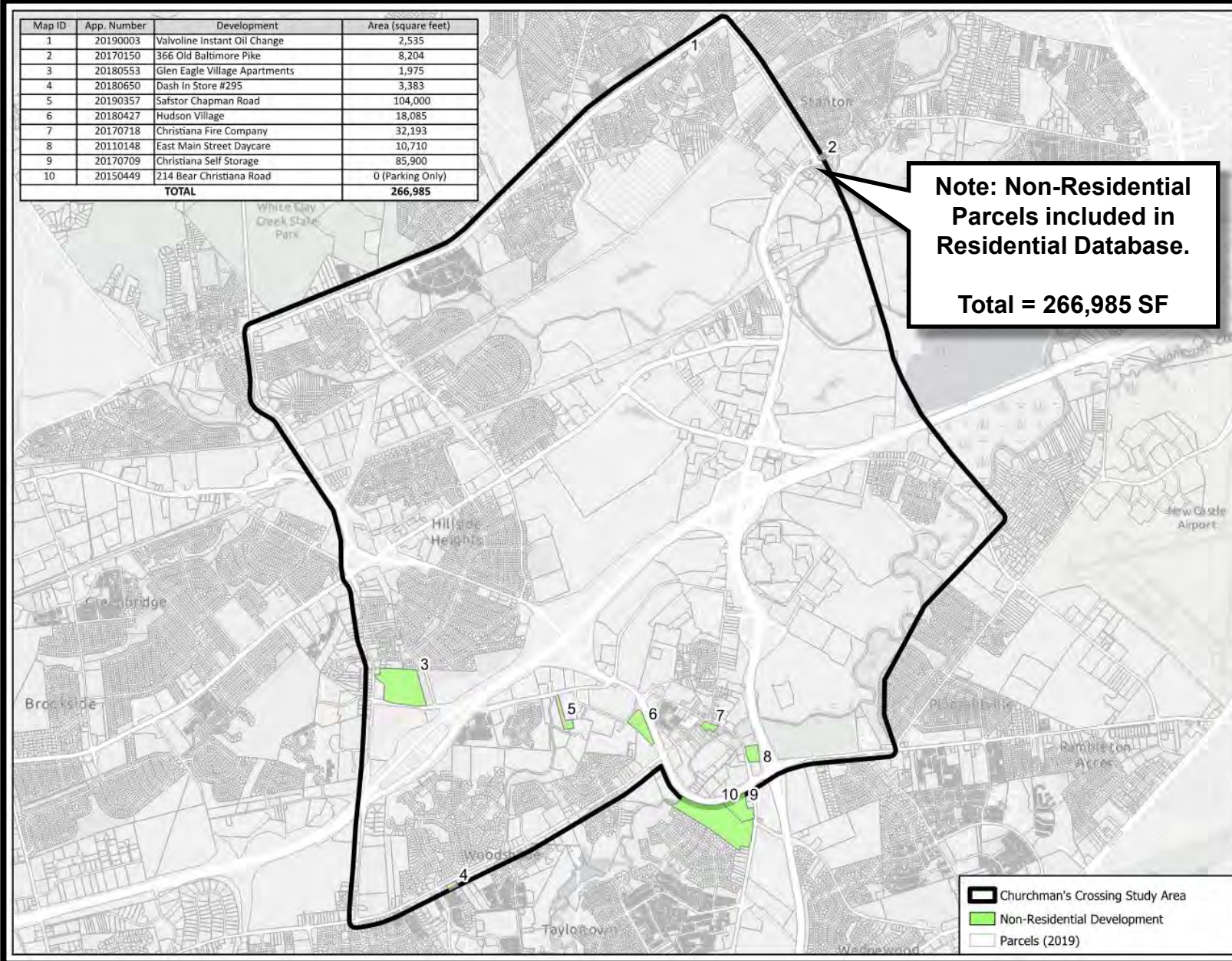
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| Map ID | App. Number | Development                   | Area (square feet) |
|--------|-------------|-------------------------------|--------------------|
| 1      | 20190003    | Valvoline Instant Oil Change  | 2,535              |
| 2      | 20170150    | 366 Old Baltimore Pike        | 8,204              |
| 3      | 20180553    | Glen Eagle Village Apartments | 1,975              |
| 4      | 20180650    | Dash In Store #295            | 3,383              |
| 5      | 20190357    | Safstor Chapman Road          | 104,000            |
| 6      | 20180427    | Hudson Village                | 18,085             |
| 7      | 20170718    | Christiana Fire Company       | 32,193             |
| 8      | 20110148    | East Main Street Daycare      | 10,710             |
| 9      | 20170709    | Christiana Self Storage       | 85,900             |
| 10     | 20150449    | 214 Bear Christiana Road      | 0 (Parking Only)   |
| TOTAL  |             |                               | 266,985            |

**Note: Non-Residential  
Parcels included in  
Residential Database.**

**Total = 266,985 SF**





# \*Additional Non-Residential Development

WILMAPCO



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Moving Forward



| Map ID       | Development   | Area<br>(square<br>feet) |
|--------------|---|--------------------------|
| 1            | Valvoline Instant Oil Change                          | 2,535                    |
| 2            | 366 Old Baltimore Pike                                | 8,204                    |
| 3            | Glen Eagle Village Apartments (Rental/Fitness Center) | 1,975                    |
| 4            | Dash In Store #295                                    | 3,383                    |
| 5            | Safstor Chapman Road                                  | 104,000                  |
| 6            | Hudson Village  | 18,085                   |
| 7            | Christiana Fire Company                               | 32,193                   |
| 8            | East Main Street Daycare                              | 10,710                   |
| 9            | Christiana Self Storage                               | 85,900                   |
| 10           | 214 Bear Christiana Road (Parking Only)               | 0                        |
| <b>Total</b> |   | <b>266,985</b>           |



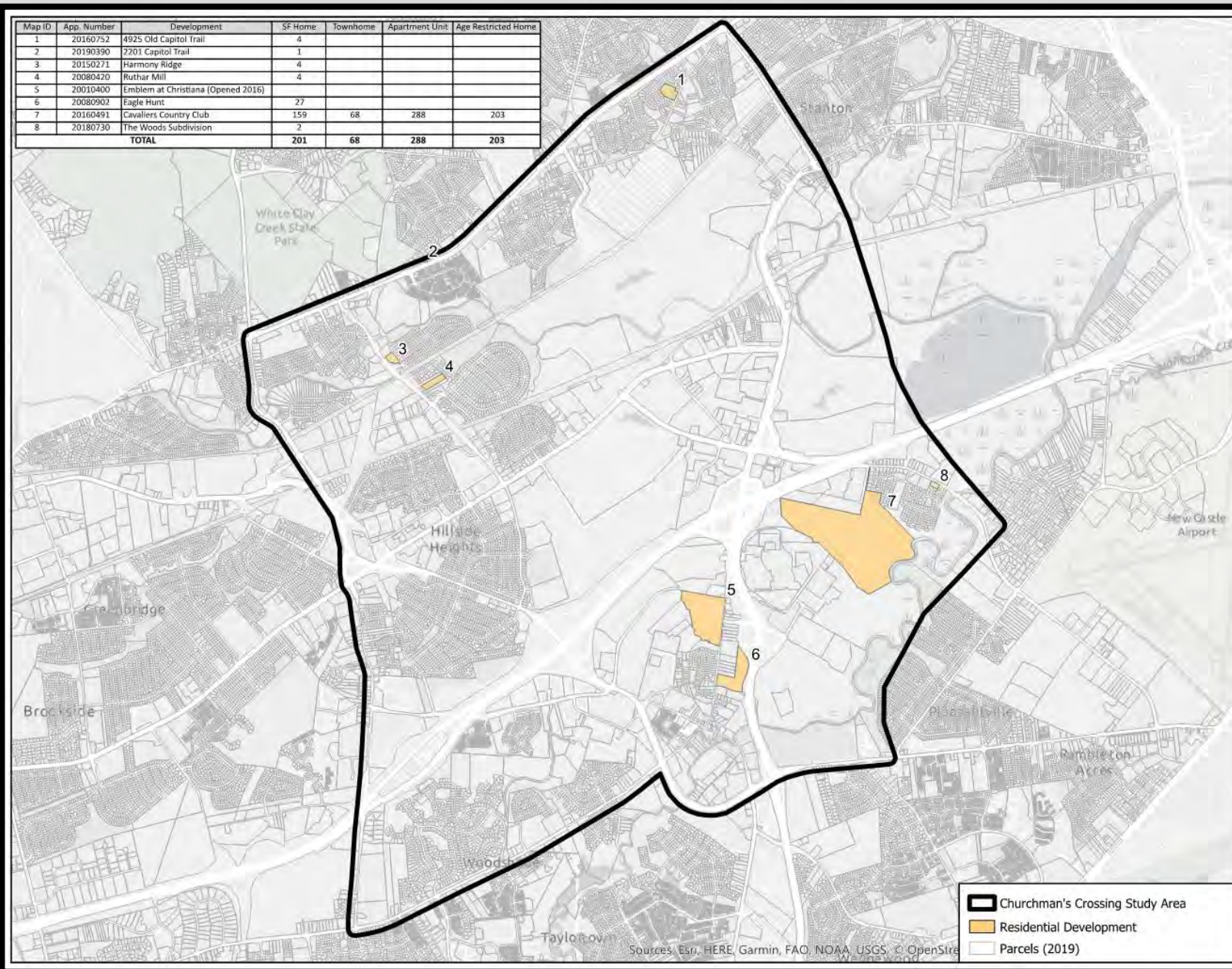
# New! Residential Development

(Planned development per NCC website)

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| Map ID       | Development                        | SF Home    | Townhome  | Apartment Unit | Age Restricted Home |
|--------------|------------------------------------|------------|-----------|----------------|---------------------|
| 1            | 4925 Old Capitol Trail             | 4          |           |                |                     |
| 2            | 2201 Capitol Trail                 | 1          |           |                |                     |
| 3            | Harmony Ridge                      | 4          |           |                |                     |
| 4            | Ruthar Mill                        | 4          |           |                |                     |
| 5            | Emblem at Christiana (Opened 2016) |            |           |                |                     |
| 6            | Eagle Hunt                         | 27         |           |                |                     |
| 7            | Cavaliers Country Club             | 159        | 68        | 288            | 203                 |
| 8            | The Woods Subdivision              | 2          |           |                |                     |
| <b>Total</b> |                                    | <b>201</b> | <b>68</b> | <b>288</b>     | <b>203</b>          |



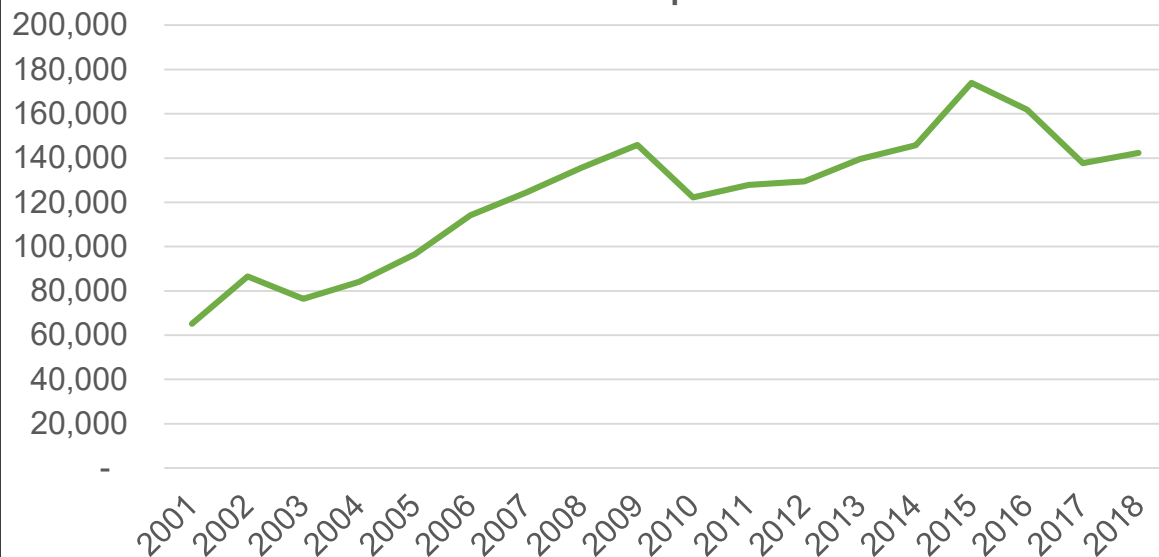
**Land Use Update**

# **Multi-Modal Update**

**Traffic Analysis Update**

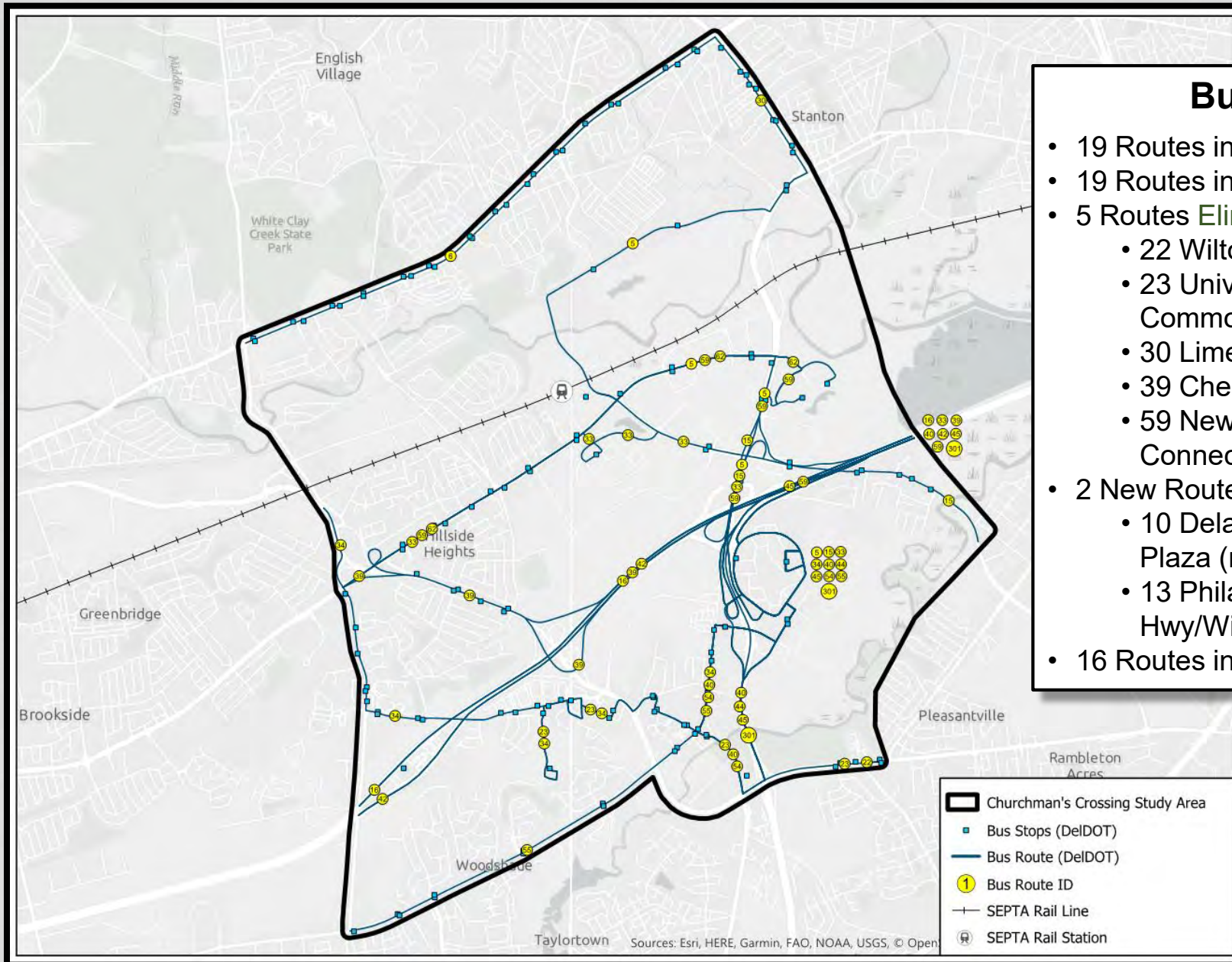
**New! Safety Analysis**

Ridership



- Ridership has more than doubled since Fairplay Station opened in 2000
  - From 65,000 in FY 2001 to 142,000 in FY 2018
- Ridership peaked at 174,000 passengers in FY 2015
- 70% increase in ridership from 2004 to 2018



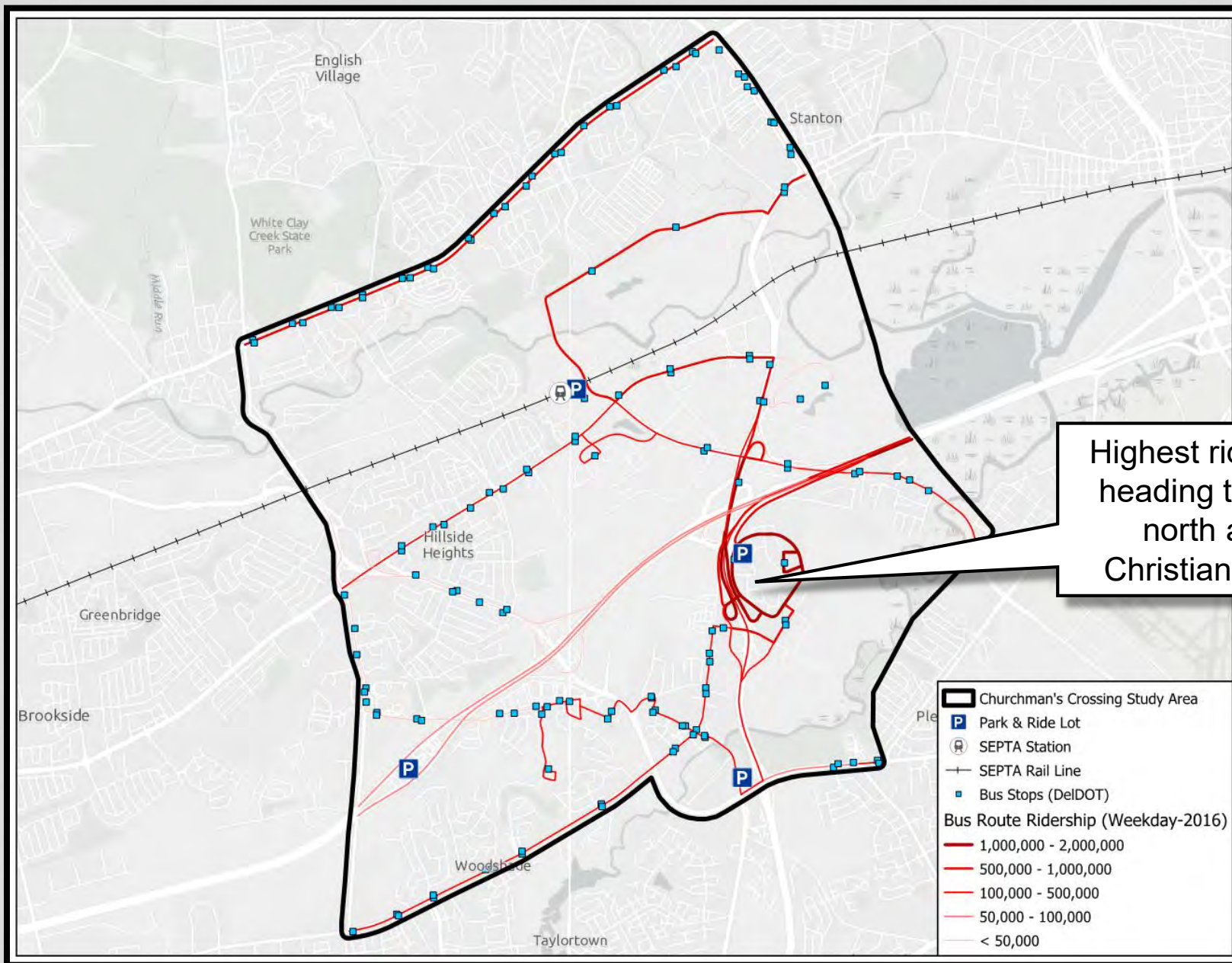


## Bus Routes

- 19 Routes in 2003
- 19 Routes in 2017
- 5 Routes **Eliminated** as of 2019
  - 22 Wilton/DuPont Hwy
  - 23 University Plaza/Corporate Commons
  - 30 Limestone Road
  - 39 Chestnut Hill Road Express
  - 59 Newark-Wilmington Train Connection
- 2 New Routes as of 2019
  - 10 Delaware Ave/University Plaza (replaced 23)
  - 13 Philadelphia Pike/DuPont Hwy/Wilton (replaced 22)
- 16 Routes in 2019



# Bus Service: 2016 Ridership



Highest ridership heading to/from north and Christiana Mall

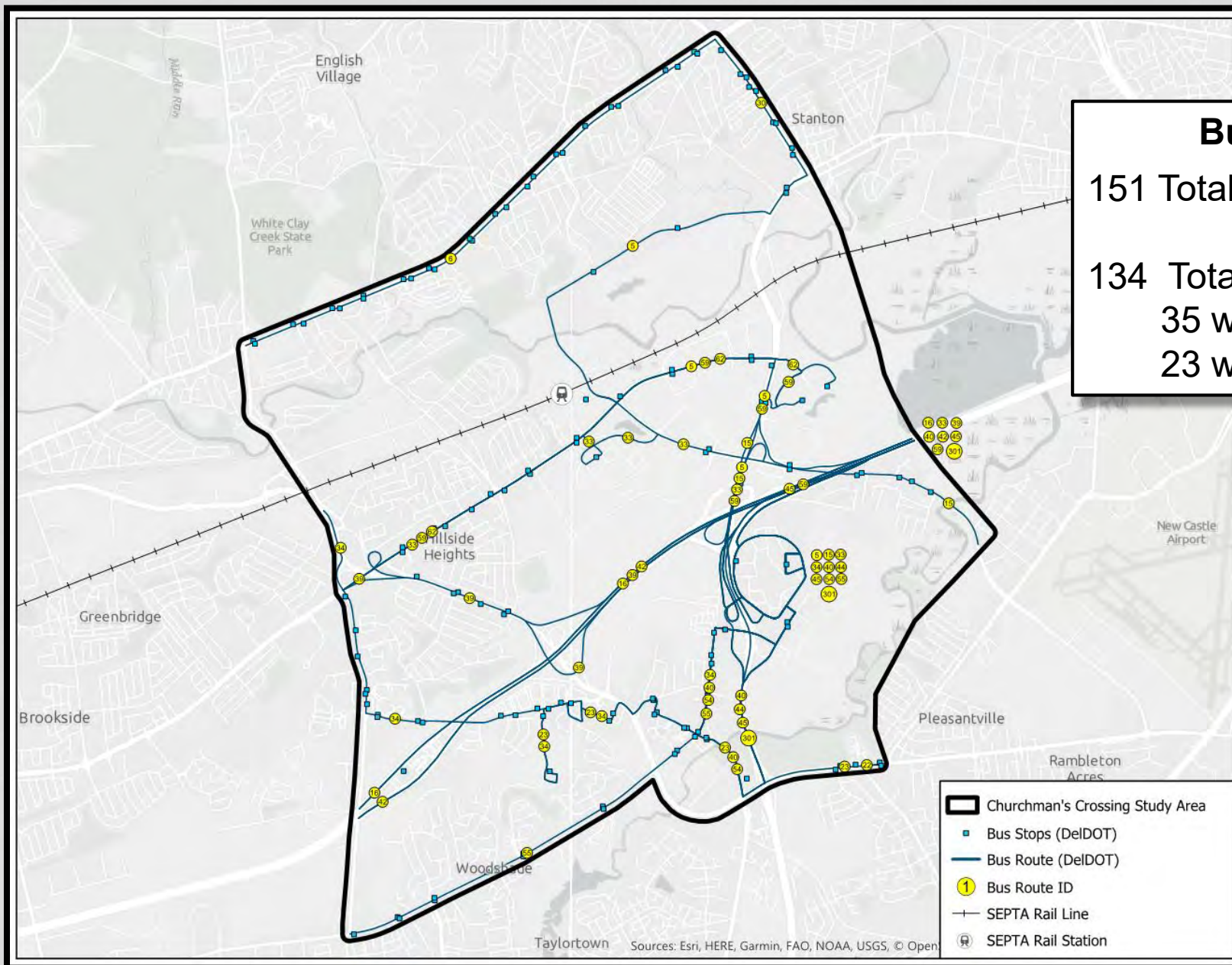


# Bus Service: Ridership

- Average daily ridership in 2003 was 10,300
- FY 16 total ridership was 3,534,700
- 9% decrease in ridership FY 15 to FY 16
- FY 15 and FY 16 ridership includes weekdays and weekends (for some routes)

| Route | Name                                      | FY 15          | FY 16          | % Change    |
|-------|---|----------------|----------------|-------------|
| 5     | Maryland Avenue                           | 604,600        | 586,700        | -3%         |
| 6     | Kirkwood Highway                          | 838,800        | 821,800        | -2%         |
| 15    | New Castle Avenue                         | 516,600        | 439,200        | -15%        |
| 16    | Newark Express                            | 46,800         | 36,300         | -22%        |
| 22    | <i>Wilton/DuPont Highway</i>              | <i>333,700</i> | <i>298,900</i> | <i>-10%</i> |
| 23    | <i>University Plaza/Corporate Commons</i> | <i>107,200</i> | <i>92,700</i>  | <i>-14%</i> |
| 30    | <i>Limestone Road</i>                     | <i>17,800</i>  | <i>20,400</i>  | <i>15%</i>  |
| 33    | Christiana Mall-Newark                    | 445,400        | 407,800        | -8%         |
| 34    | Marrows Rd./Christiana Mall               | 75,300         | 40,900         | -46%        |
| 39    | <i>Chestnut Hill Road Express</i>         | <i>35,900</i>  | <i>26,700</i>  | <i>-26%</i> |
| 40    | US 40 Peoples Plaza                       | 277,700        | 273,000        | -2%         |
| 42    | Glasgow Express                           | 31,200         | 29,600         | -5%         |
| 44    | Wrangle Hill DMV                          | 10,800         | 23,200         | 115%        |
| 45    | Wilmington/Odessa P&R                     | 32,600         | 31,500         | -4%         |
| 54    | Christiana Mall / Wilton                  | 139,400        | 118,000        | -15%        |
| 55    | Old Baltimore Pike                        | 154,900        | 125,000        | -19%        |
| 59    | <i>Newark-Wilmington Train Connection</i> | <i>2,500</i>   | <i>3,400</i>   | <i>36%</i>  |
| 62    | Churchmans Shuttle                        | 10,400         | 9,100          | -13%        |
| 301   | Wilmington-Dover                          | 190,700        | 150,600        | -21%        |

# Bus Stops



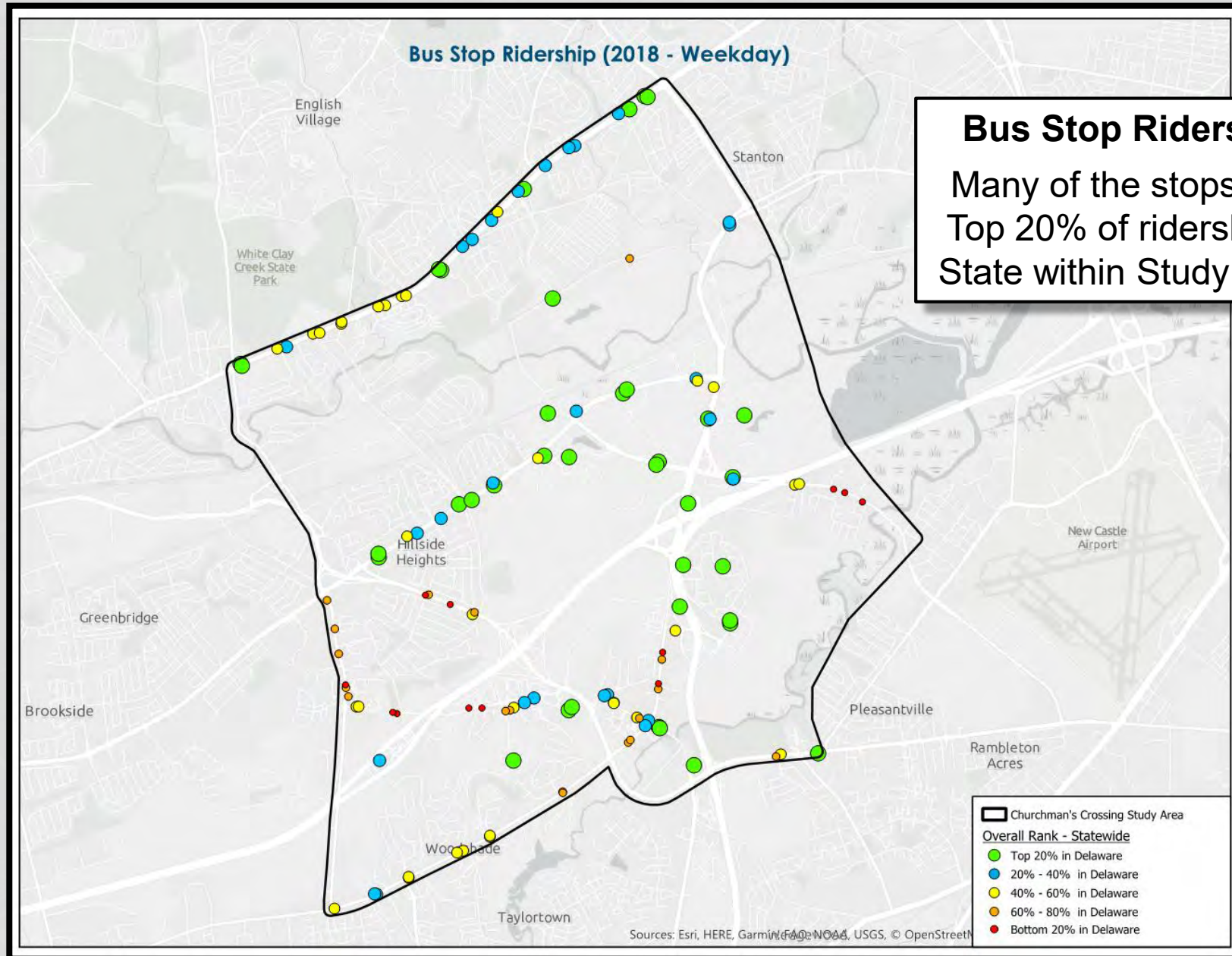
## Bus Stops

151 Total Stops in 2004

134 Total Stops in 2017  
35 with Benches  
23 with Shelters



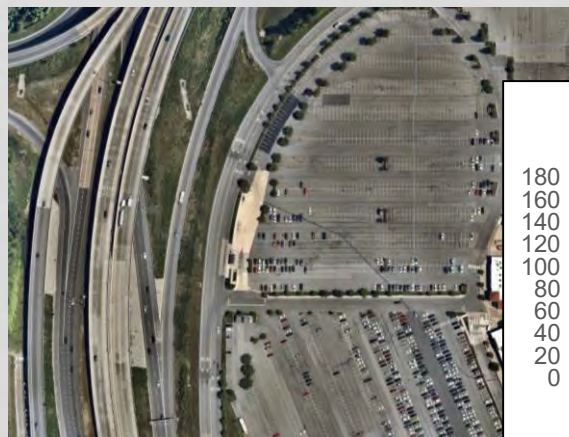
# Bus Stops: 2018 Ridership



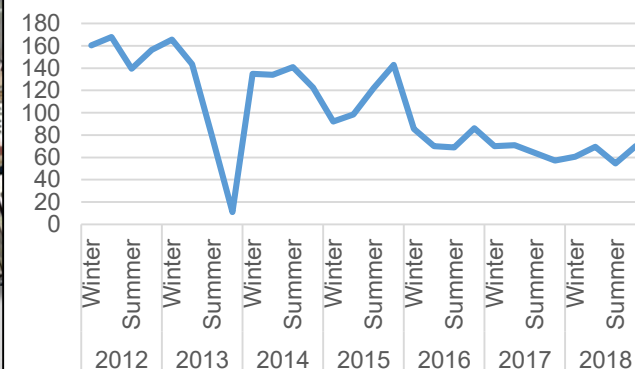
**Bus Stop Ridership**  
Many of the stops with Top 20% of ridership in State within Study Area.

## ● Christiana Mall

- 200 spaces
- Declining usage, but may have leveled off
- ~ 60-70 vehicles/day past 2 years

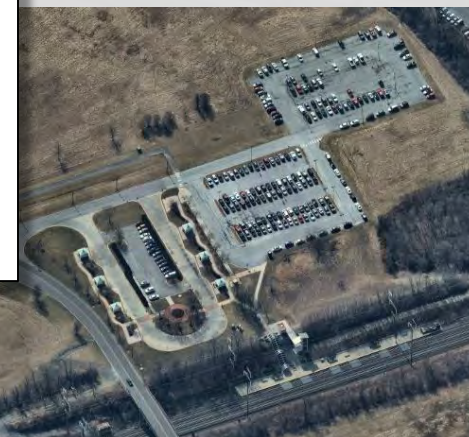
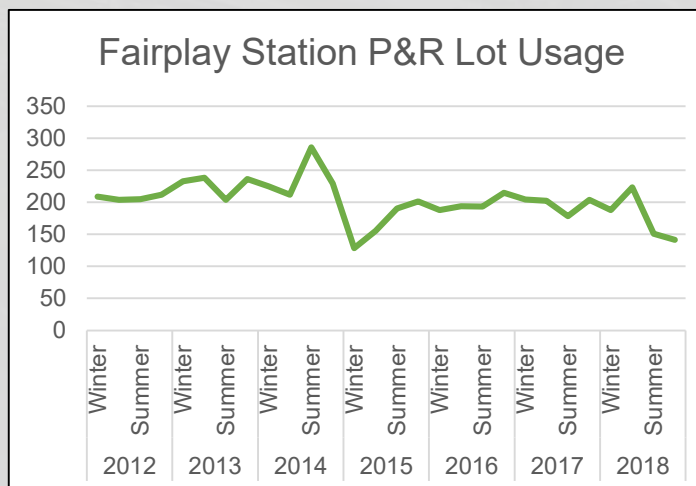


Christiana Mall P&R Lot Usage



## ● Fairplay Station

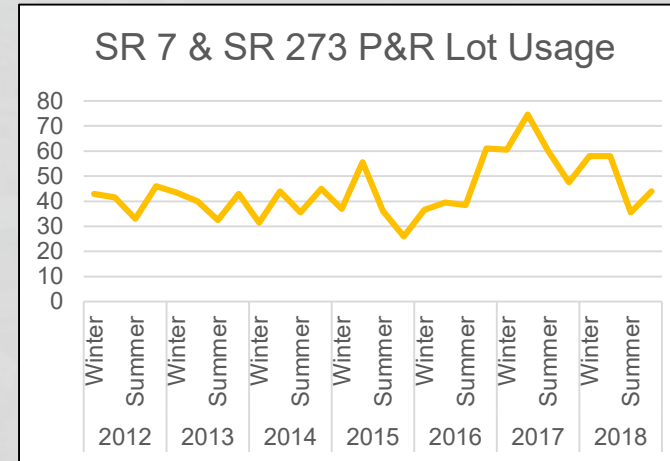
- Originally 138 spaces
- Increased to 260 spaces in 2008
- Steady usage
- ~ 200 vehicles/day past 2 years





## ● SR 7 & SR 273

- 180 spaces
- Steady usage
- ~ 50-60 vehicles/day past 2 years

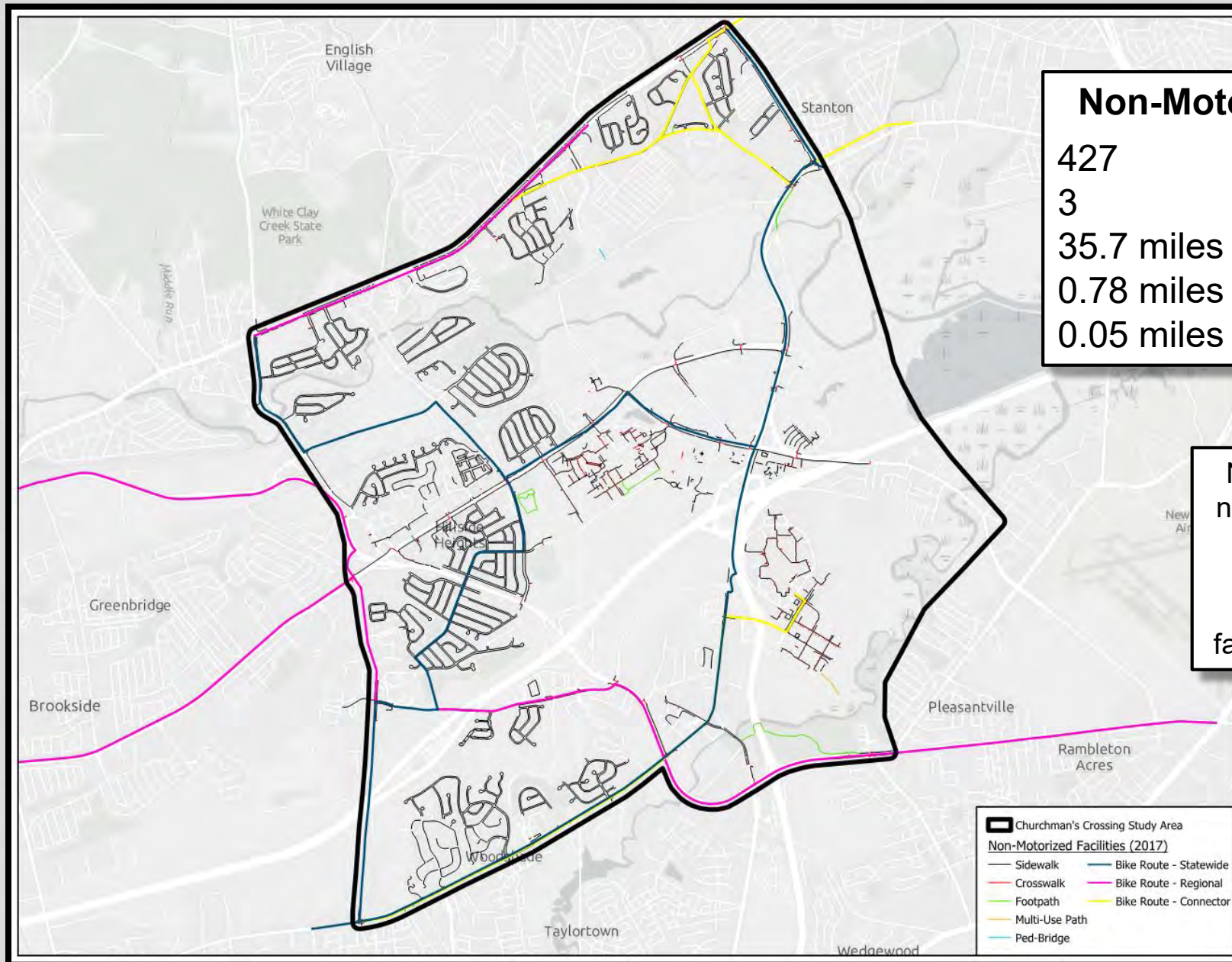


## ● I-95 Service Plaza

- Utilization not surveyed after 2009
- “Closed” in 2016



Note: No P&R data included in 1997 or 2004 update



## Non-Motorized Facilities

|            |                |
|------------|----------------|
| 427        | Crosswalks     |
| 3          | Ped Bridges    |
| 35.7 miles | Sidewalk       |
| 0.78 miles | Footpath       |
| 0.05 miles | Multi-Use Path |

Note: 1997 study did not document sidewalk infrastructure.  
2004 update simply documented new facilities (2000 – 2003).



The background of the slide is a blue-tinted aerial photograph of a complex highway interchange with multiple overpasses and ramps.

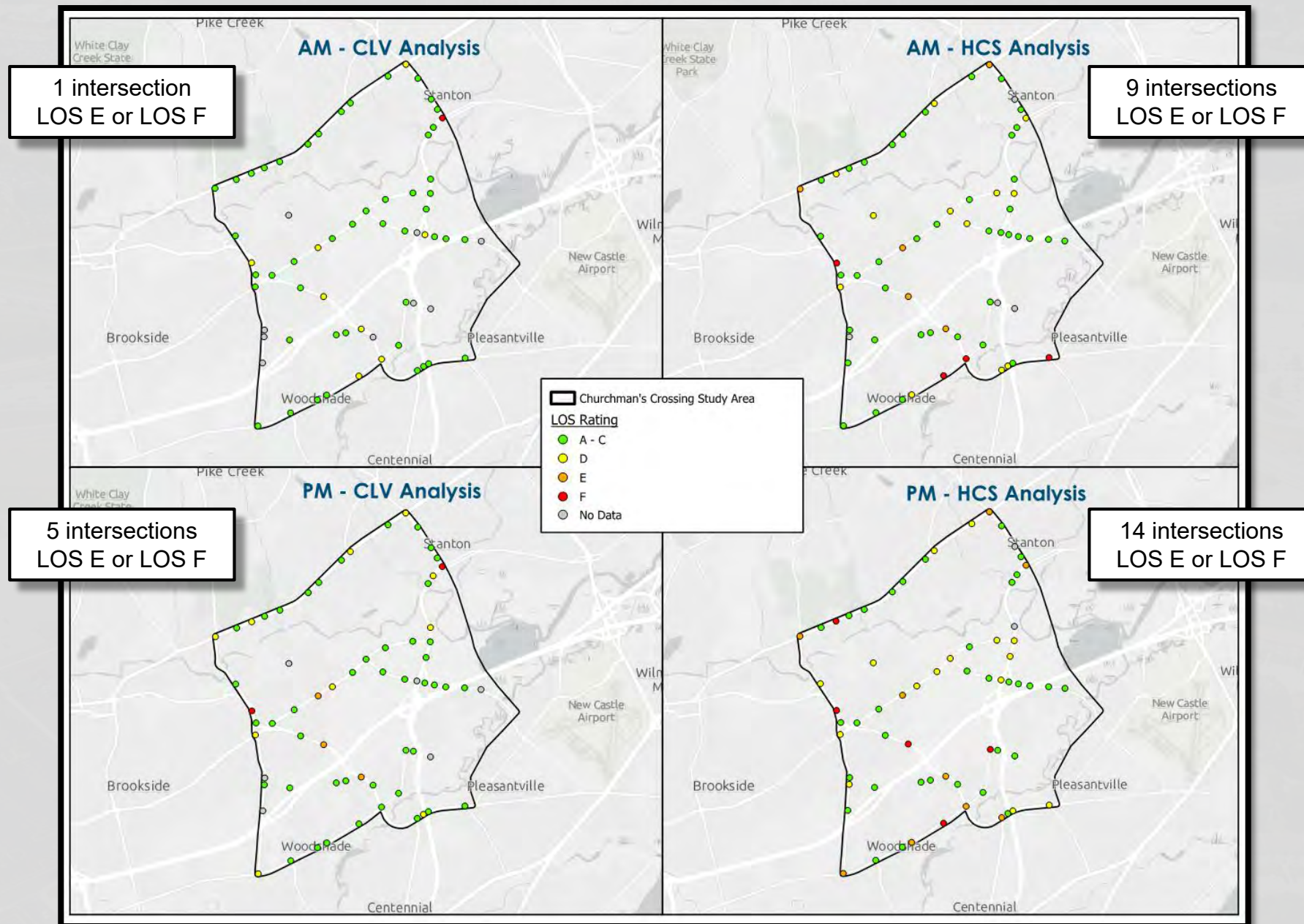
# **Traffic Analysis Update**

**Land Use Update**  
**Multi-Modal Update**  
**New! Safety Analysis**

- Critical Lane Volume (CLV) method – calculates the maximum number of vehicles passing through the intersection per lane in one hour and compares that volume to the intersection capacity
- Highway Capacity Software (HCS) method – calculates intersection delay using traffic count data, signal timings, truck percentage, etc. and compares that delay to established thresholds



# Level of Service (LOS)



Based on most recent available counts, 2016 - 2018

- 5 of the 9 intersections monitored annually from 1997 – 2014 were also counted in 2016, 2017, or 2018
  - SR 4 at Harmony Road
  - SR 273 at Harmony Road
  - SR 273 at Chapman Road/Eagle Run Road
  - SR 273 at SR 7
  - SR 4/SR 7 at JP Morgan
- Traffic analysis updated for each location

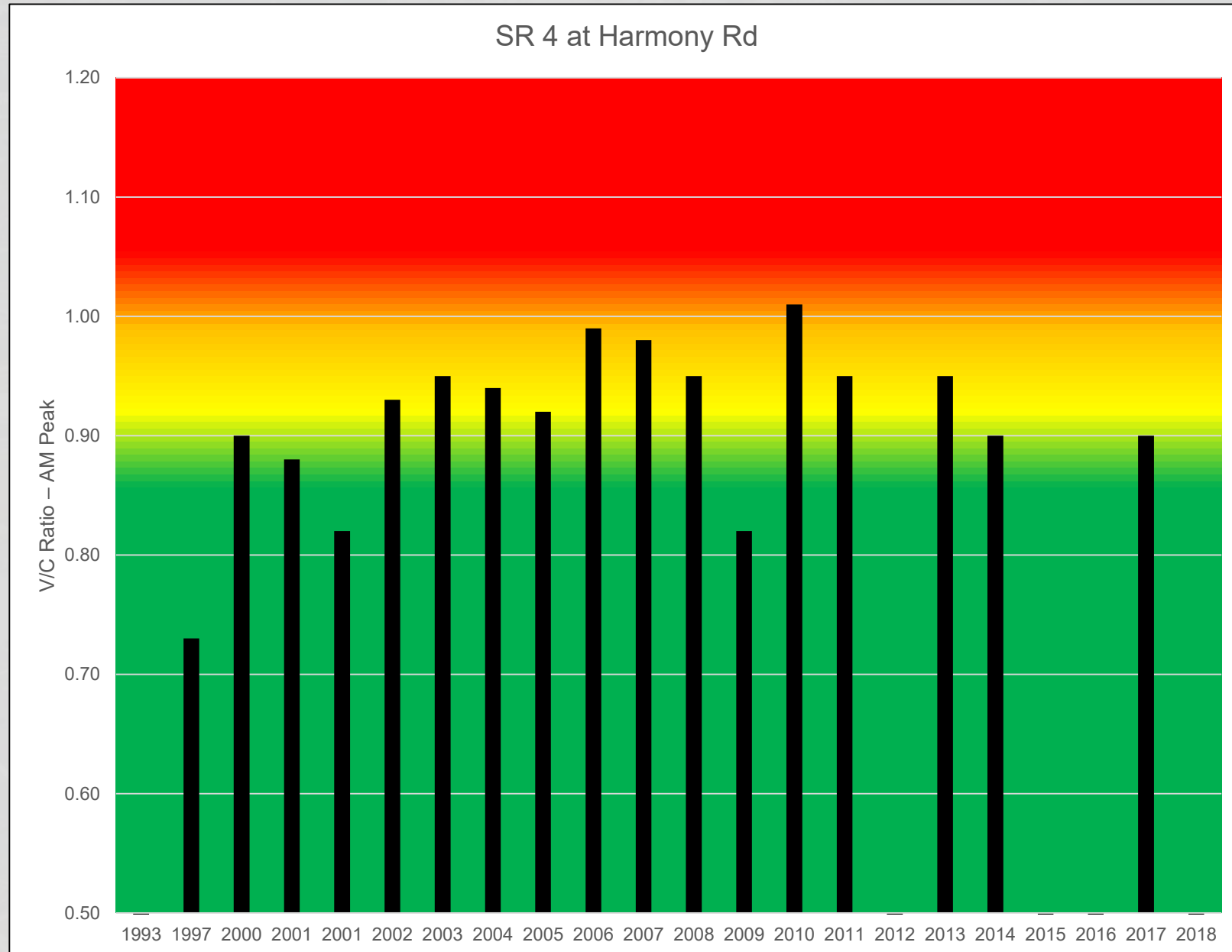


# SR 4 at Harmony Road (AM)

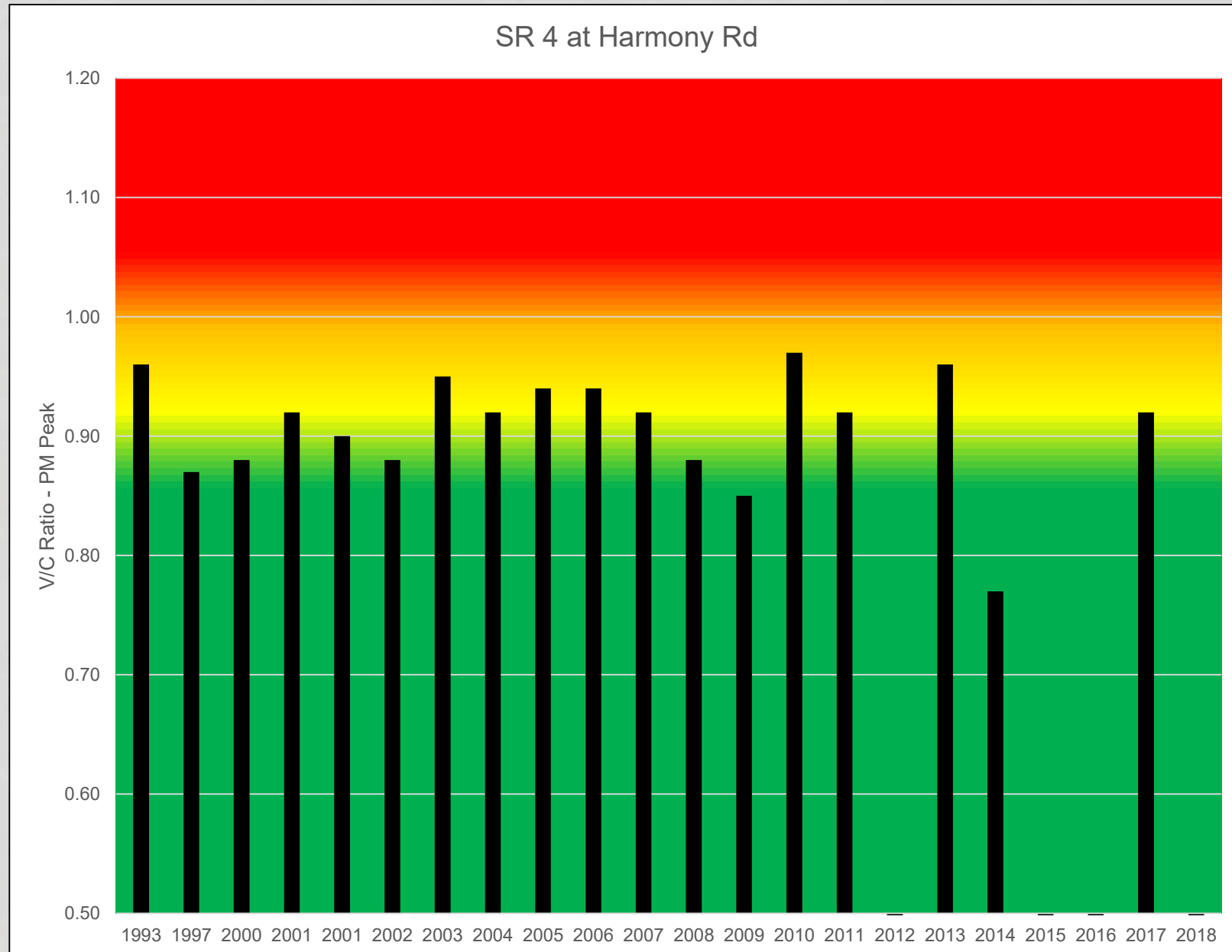
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# SR 4 at Harmony Road (PM)



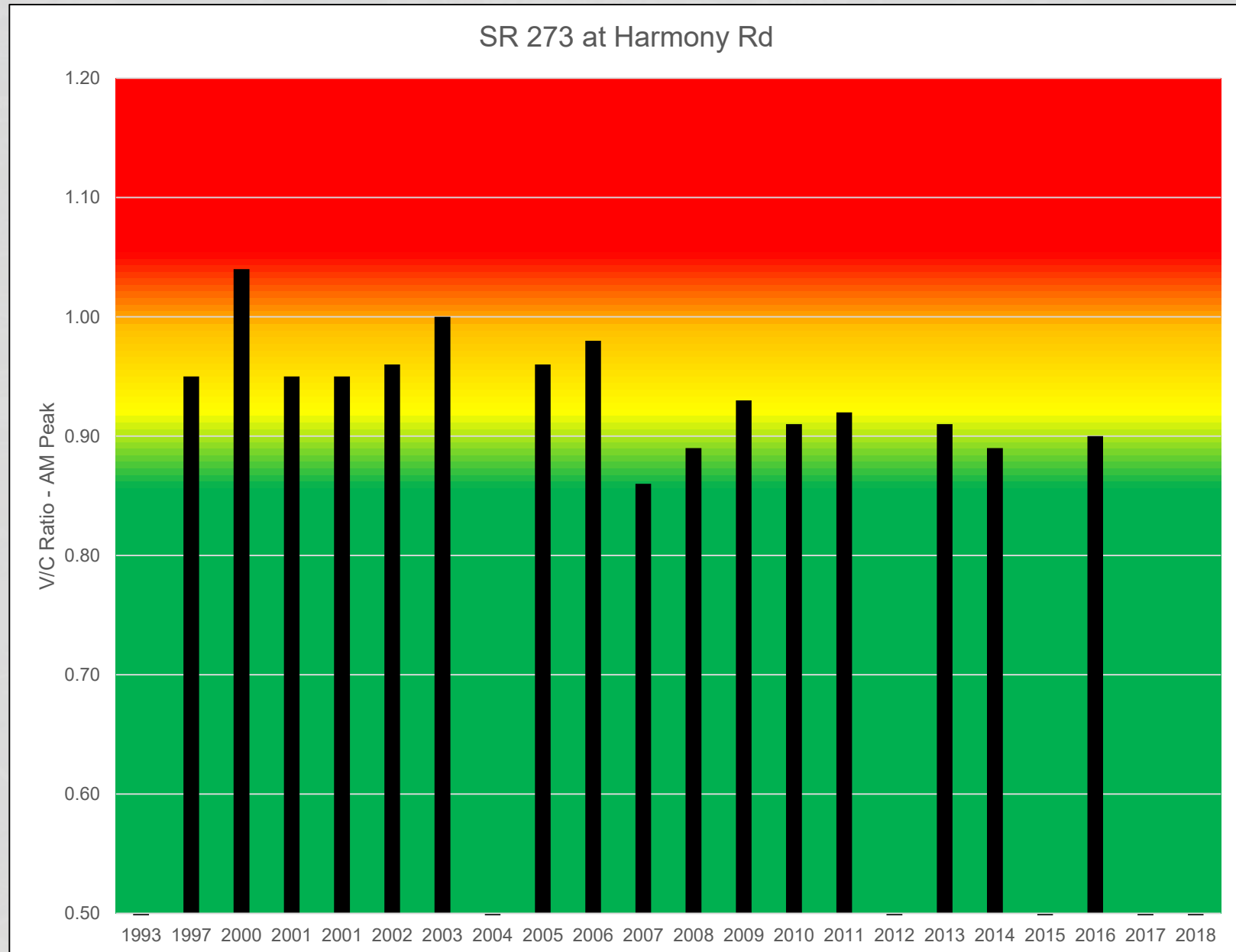


# SR 273 at Harmony Road (AM)

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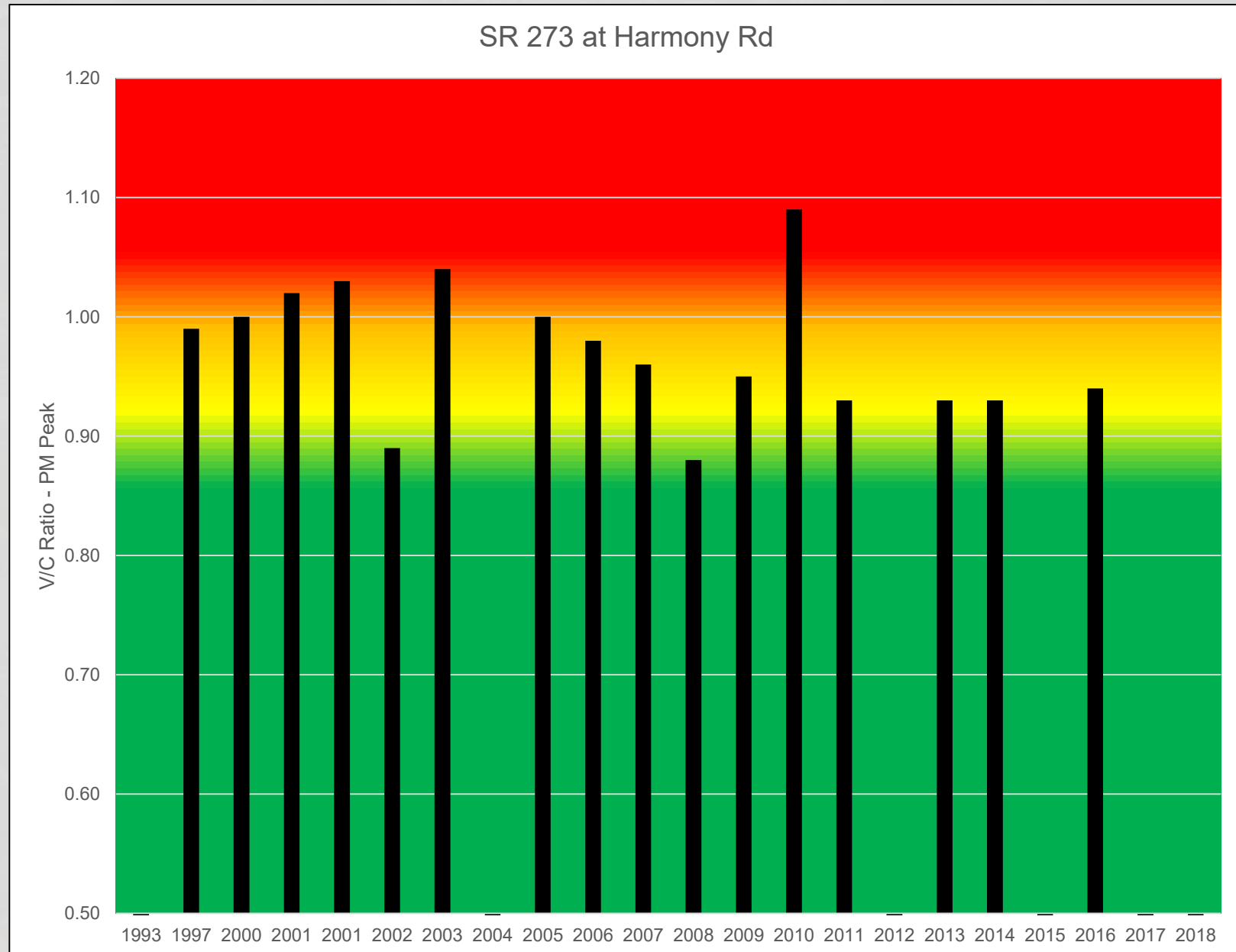


# SR 273 at Harmony Road (PM)

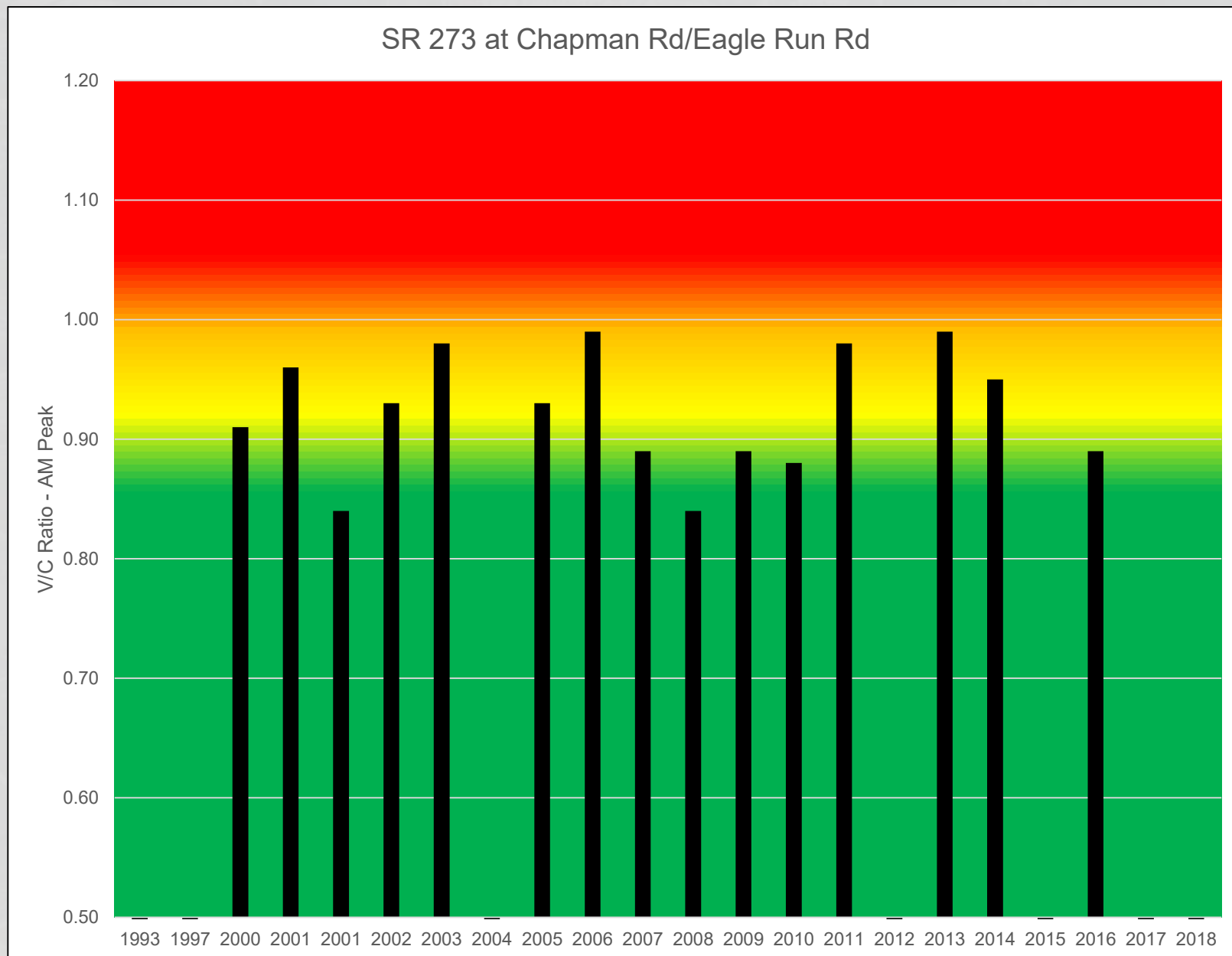
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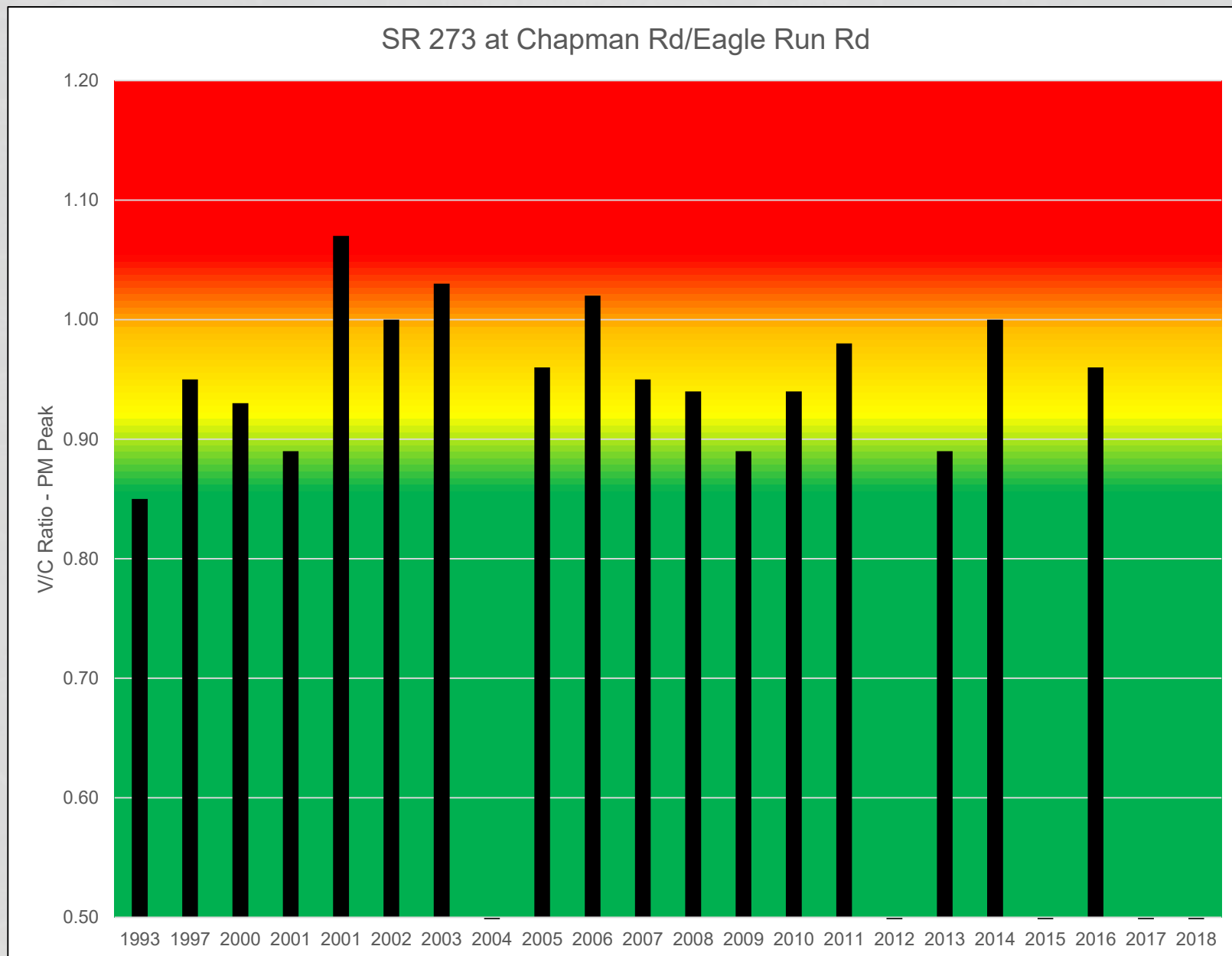


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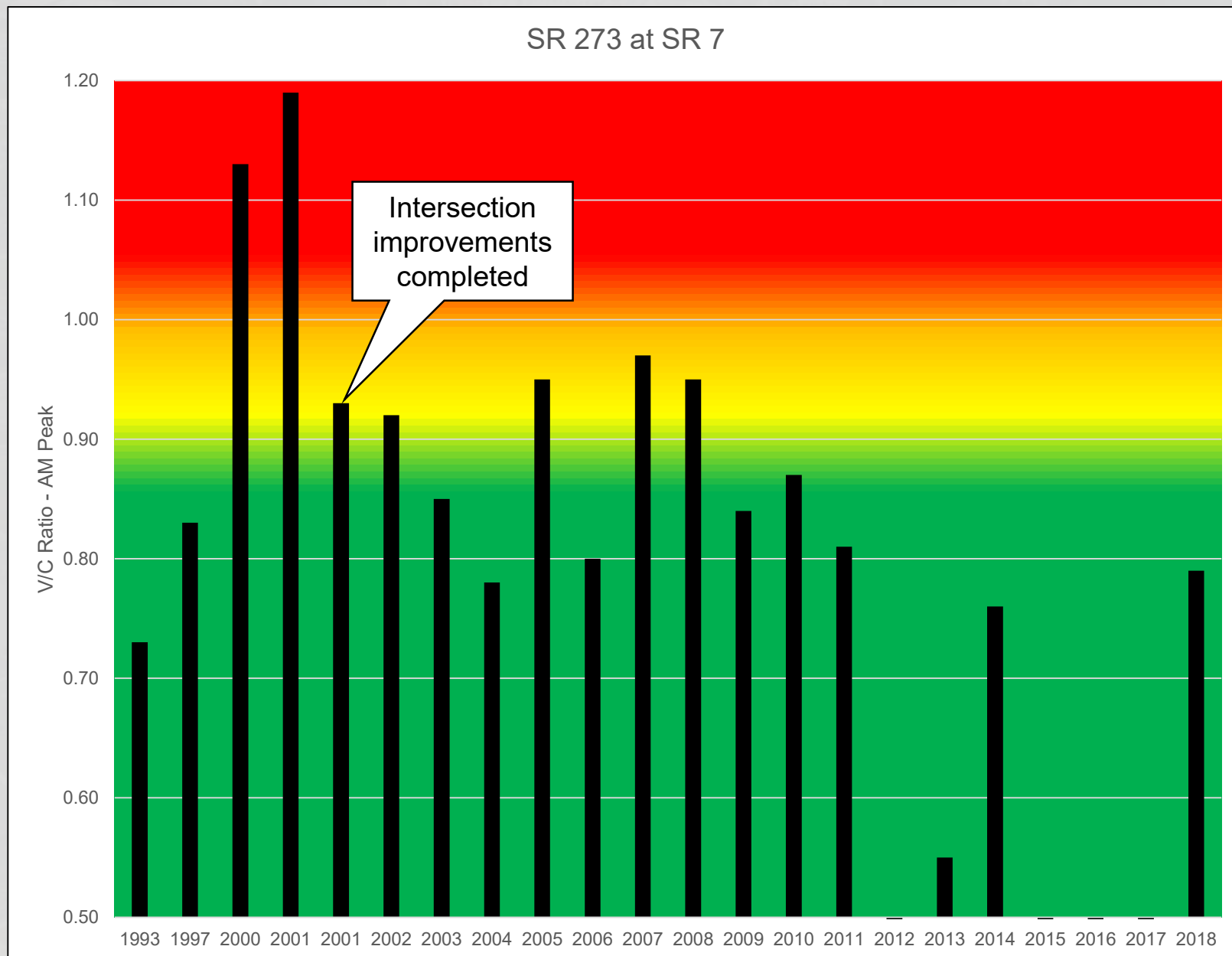




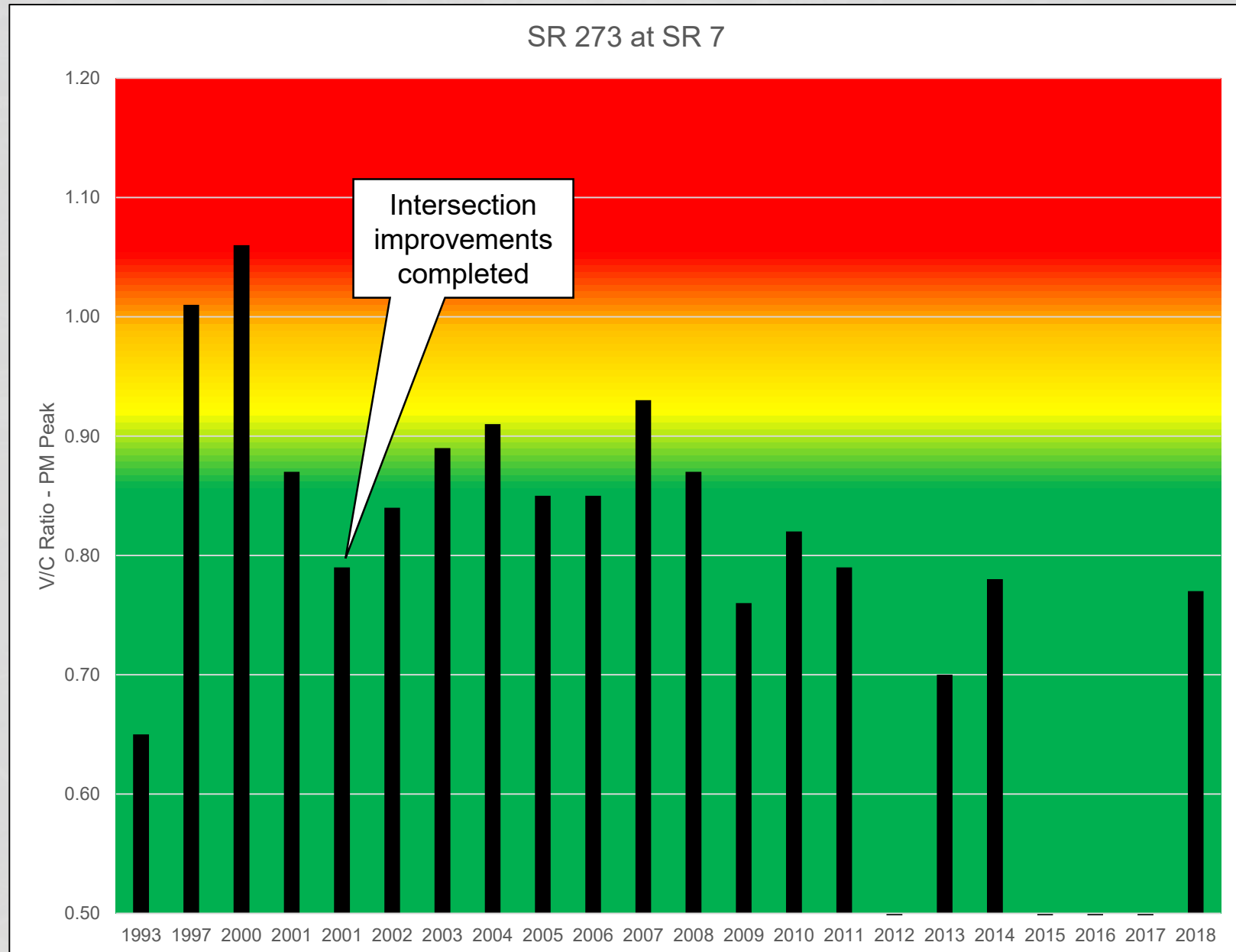




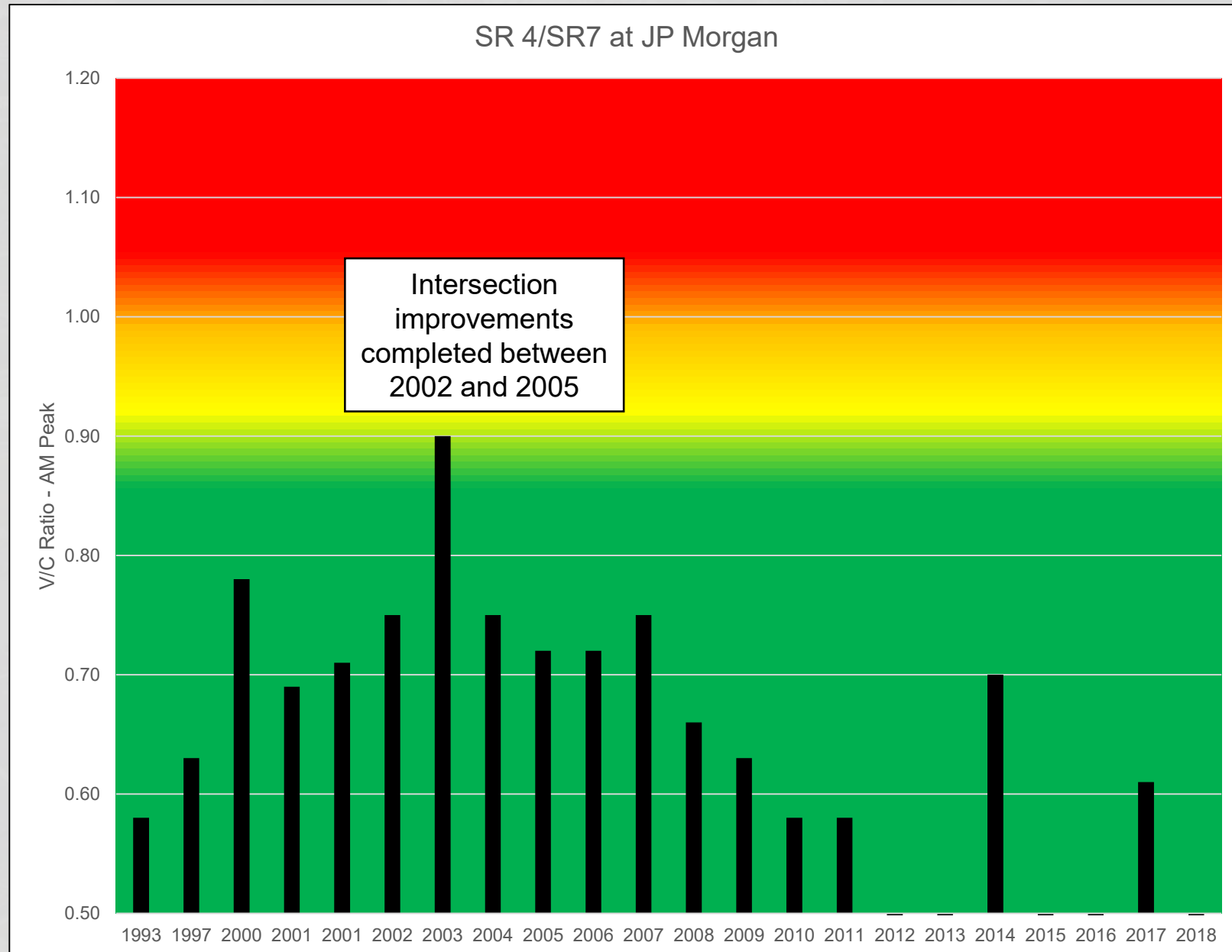
# SR 273 at SR 7 (AM)



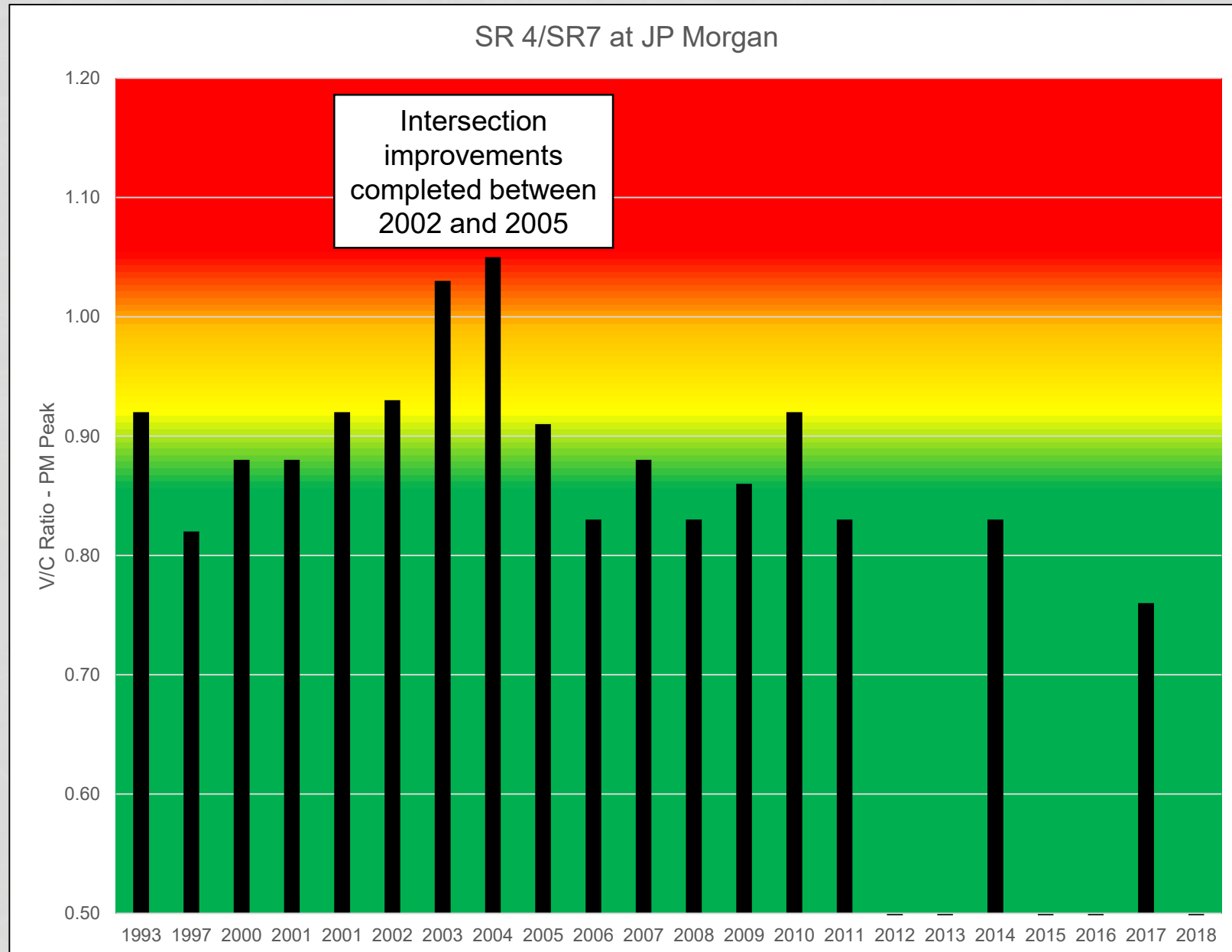
# SR 273 at SR 7 (PM)







# SR 4/SR 7 at JP Morgan (PM)





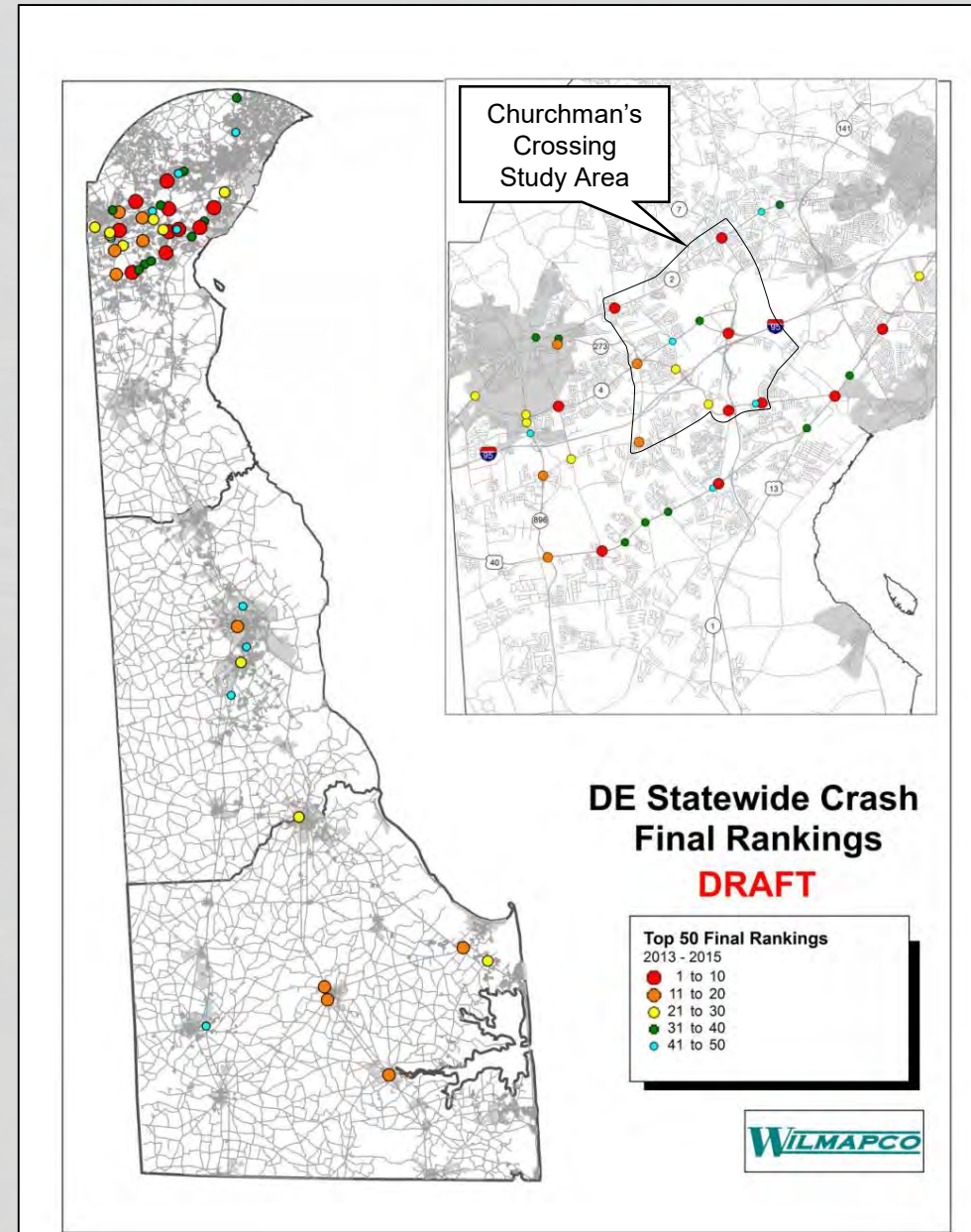
Land Use Update  
Multi-Modal Update  
Traffic Analysis Update

# **New!** Safety Analysis

- Not included in 1997 Study or 2004 Update
- Included in GIS database to provide broader picture of transportation performance throughout the study area

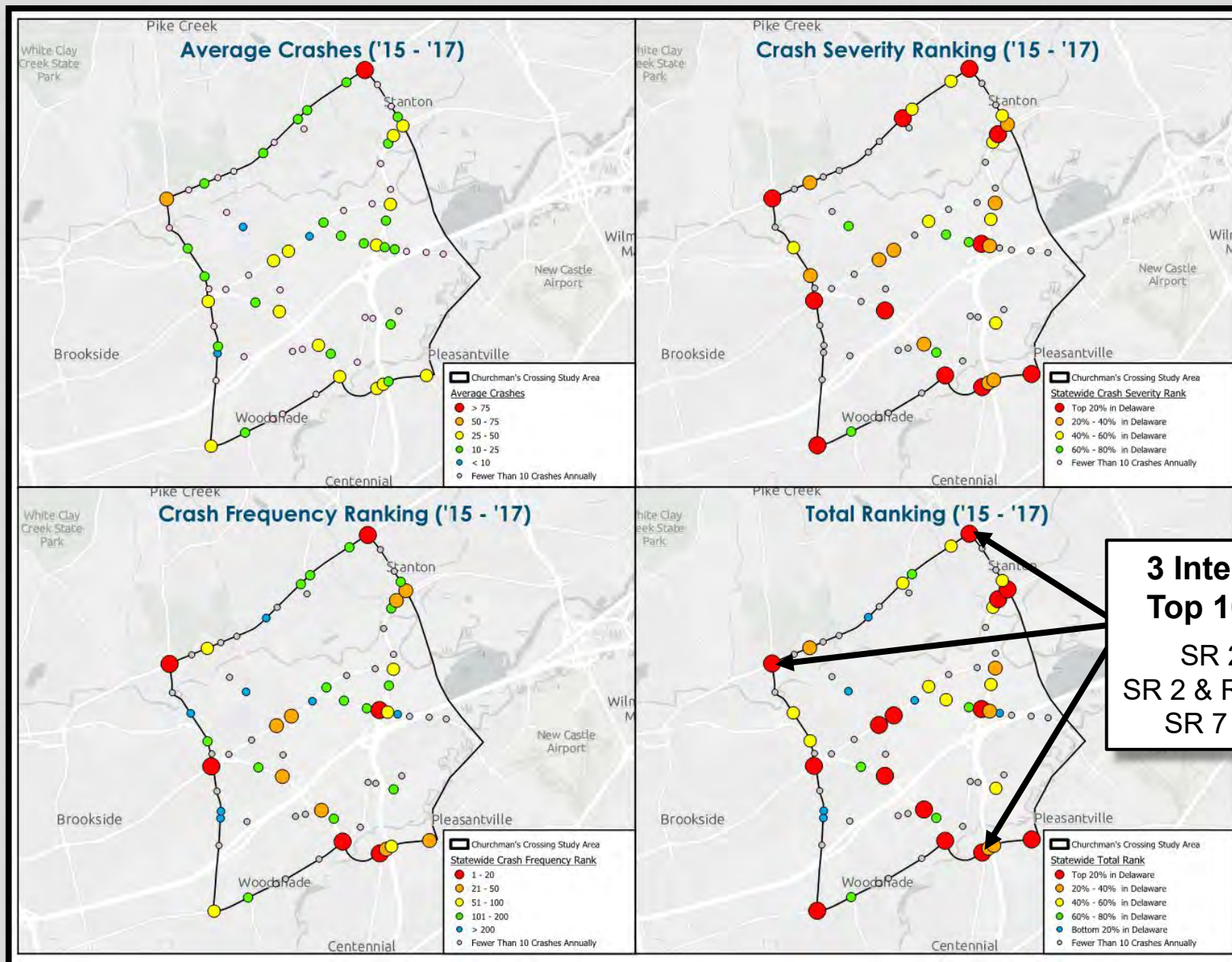


- Statewide intersection crash analysis results
- Based on intersection “Sphere of Influence”
- Compares all intersections with 10 or more crashes annually over past 3 years
- Crash Frequency Rankings and Crash Severity Rankings



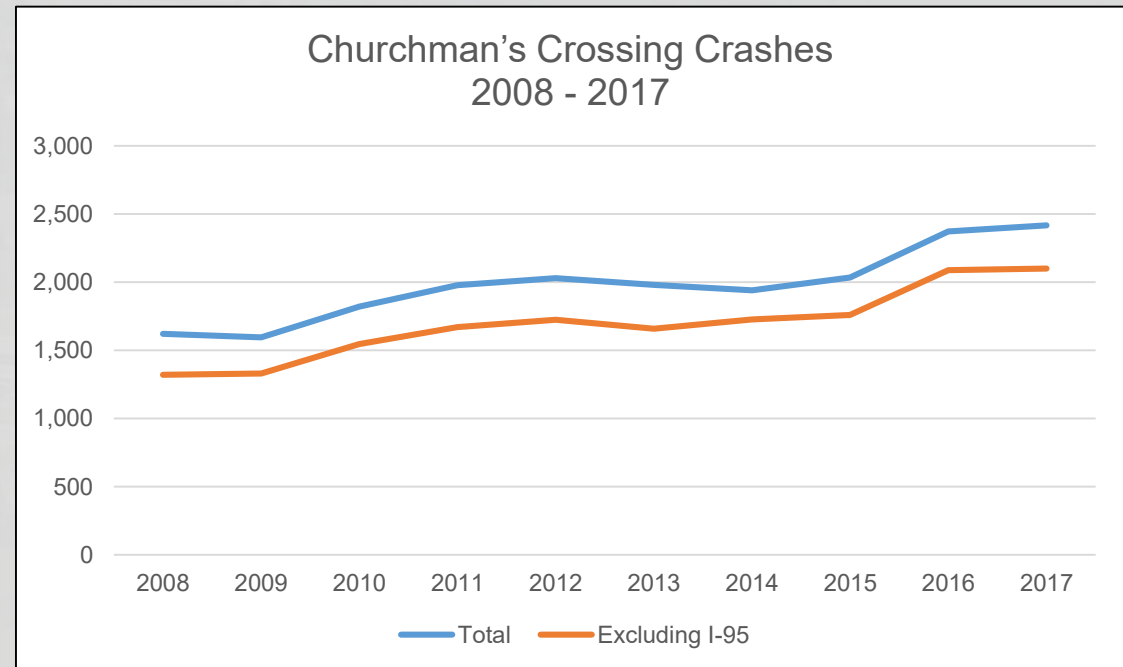


# Crash Rankings





| Year | Total | Excluding I-95 |
|------|-------|----------------|
| 2017 | 2,417 | 2,100          |
| 2016 | 2,372 | 2,088          |
| 2015 | 2,034 | 1,759          |
| 2014 | 1,940 | 1,727          |
| 2013 | 1,979 | 1,659          |
| 2012 | 2,029 | 1,725          |
| 2011 | 1,978 | 1,670          |
| 2010 | 1,821 | 1,545          |
| 2009 | 1,595 | 1,329          |
| 2008 | 1,620 | 1,320          |



*Crashes generally increasing slightly each year*

# Capital Project Updates



- 61+ roadway, transit, TDM, sidewalk/bikeway recommendations in 1997 Report, including projects in CTP and MTP
- 25 projects have been implemented
  - Interchange improvements
  - Intersection improvements
  - New SEPTA station
  - Bus service improvements
  - 2 new Park & Ride lots
  - New bikeways
- Several recommendations yet to be implemented
  - New roadway connections (Churchman's Road extension, Newtown Road extensions, Roger Roy Ramp)
  - MARC commuter rail service
  - Additional Park & Ride lots, intersection improvements, bus service improvements, sidewalks and bikeways

# Capital Project Recommendations: 2019 Update



| #  | Type                                   | Project   | Implemented | If so, When? |
|----|--|---|-------------|--------------|
| 1  | Roadway Capacity                       | Churchman's Crossing / Turnpike: New Interchange at SR 7/Churchman's Rd | Yes         | 1996-2002    |
| 1  | Roadway Capacity                       | Churchman's Crossing / Turnpike: Churchman's Rd Bridge over I-95        | Yes         | 2006/2007    |
| 1  | Roadway Capacity                       | Churchman's Crossing / Turnpike: I-95 Interchange with SR 1 / SR 7      | Yes         | 2011-2016    |
| 2  | Roadway Capacity                       | SR 273, I-95 to Ogletown  | Yes         | 1996-2002    |
| 3  | Roadway Capacity                       | US 40 / SR 7 Capacity Improvements                                      | ?           |              |
| 3  | Transit Service                        | Churchman's Road  | Yes         | 1996-2002    |
| 4  | Transit Service                        | Intermodal Rail Passenger Transfer Facilities                           | Yes         | 1991-2000    |
| 5  | Roadway Resurfacing                    | I-95 from SR 896 to SR 141  | ?           |              |
| 6  | Roadway Resurfacing                    | Turnpike Plaza Rehabilitation   | Yes         | 2011         |
| 7  | Bridge Rehabilitation                  | I-95 over SR 7 (BR716, 716A, and 717)                                   | Yes         | 2016-2019    |
| 8  | Bridge Rehabilitation                  | SR 7 over Christina River   | ?           |              |
| 9  | Bridge Rehabilitation                  | BR 255 and BR 647 on SR 273   | ?           |              |
| 10 | Public Transportation                  | SEPTA and MARC Commuter Rail Service                                    | Yes/No      | 2001         |
| 11 | Public Transportation                  | Old Baltimore Pike Express Bus  | Yes         | 2000         |
| 12 | Public Transportation                  | SR 1 Express Bus  | Yes         | 2018         |
| 13 | Public Transportation                  | Old Baltimore Pike Local  | Yes         | 2003         |
| 14 | Public Transportation                  | Old Baltimore Pike - SR 273 / 7 Local                                   | Yes         | 2000         |
| 15 | Public Transportation                  | SR 141 / 48 / 37 / 273 Local  | No          |              |
| 16 | Public Transportation                  | SR 72 / Polly Drummon Hill Road Local                                   | No          |              |
| 17 | Public Transportation                  | Park & Ride Lot - SR 4 / Harmony Road                                   | No          |              |
| 17 | Public Transportation                  | Park & Ride Lot - SR 273 / Old Baltimore Pike                           | No          |              |
| 17 | Public Transportation                  | Park & Ride Lot - Christiana Mall                                       | Yes         | June 1996    |
| 17 | Public Transportation                  | Park & Ride Lot - Churchman's Crossing Commuter Rail Station            | Yes         | 1996-2002    |
| 18 | Highway Capacity                       | HOV Lanes I-95 from MD Line to I-95 / I-495 / I-295                     | No          |              |
| 19 | Highway Capacity                       | SR 58 (Churchman's Road) from SR 7 to SR 273                            | No          |              |
| 20 | Highway Capacity                       | Red Mill Road from SR 2 to SR 4   | No          |              |
| 21 | Highway Capacity                       | Churchman's Road Extension from SR 4 to SR 2                            | No          |              |
| 22 | Transportation Demand Management (TDM) | HOV Lanes on I-95 (See Item 19)   | No          |              |
| 23 | Transportation Demand Management (TDM) | Ramp metering at the SR 273 interchange with I-95                       | No          |              |
| 24 | Transportation Demand Management (TDM) | Signal coordination along SR 7 from PA Line to US 13                    | Yes         |              |
| 25 | Transportation Demand Management (TDM) | Freeway incident management along I-95 from MD 272 to PA Line           | Yes         |              |
| 26 | Transportation Demand Management (TDM) | Seasonal Service Patrol on SR 1 from SR 7 to Kent County Line           | No          |              |
| 27 | Class I Greenways / Bikeways           | SR 7 from Limestone Road to SR 4  | No          |              |
| 28 | Class I Greenways / Bikeways           | SR 4 from Elkton Road to SR 7   | Partial     |              |
| 29 | Class I Greenways / Bikeways           | Along Pike Creek from SR 2 to SR 72                                     | No          |              |
| 30 | Class II Bikeways                      | Milltown Road from Old Milltown Road to SR 7                            | Yes         | 2016-2019    |
| 31 | Class II Bikeways                      | Old Milltown Road from Milltown Road to Walaston Road                   | No          |              |
| 32 | Class II Bikeways                      | Walaston Road from Old Milltown Road to SR 2                            | No          |              |



# Capital Project Recommendations: 2019 Update, continued



| #                     | Type   | Project  | Implemented | If so, When?  |
|-----------------------|--|--|-------------|---------------|
| 33                    | Class II Bikeways                                    | Mitch Road from SR 7 to SR 4   | Yes         | 2014-2017     |
| 34                    | Class II Bikeways                                    | Airport Road from Churchman's Road to SR 273                                   | No          |               |
| 35                    | Class II Bikeways                                    | SR 58 (Churchman's Road) from SR 4 to SR 273                                   | No          |               |
| 36                    | Class II Bikeways                                    | SR 7 from SR 273 to US 13  | Partial     | 2016-2018     |
| 37                    | Class II Bikeways                                    | SR 273 from SR 9 to SR 2   | Partial     | 2016-2018     |
| 38                    | Class II Bikeways                                    | Chapman Road from SR 273 to Salem Church Road                                  | Partial     | 2012-2016     |
| 39                    | Class II Bikeways                                    | Salem Church Road from US 40 to Chapman Road                                   | Partial     | 2012-2016     |
| 40                    | Class II Bikeways                                    | Harmony Road from Ruthar Drive to Rosewood Drive                               | Partial     | 2012-2015     |
| 41                    | Class II Bikeways                                    | Ruthar Drive from Harmony Road to Red Mill Road                                | No          |               |
| 42                    | Class II Bikeways                                    | Red Mill Road from Ruthar Drive to SR 2  | No          |               |
| 43                    | Class II Bikeways                                    | School Bell Road from SR 7 to US 40  | No          |               |
| 44                    | Class II Bikeways                                    | Appleby Road from SR 273 to US 40  | No          |               |
| 45                    | Class III Bikeways                                   | Regal / Brownleaf Way from Chapman Road to Harmony Road                        | No          |               |
| Other recommendations | Transit Package 2 - Changes to Existing Service      | Increase service between People's Plaza and Christiana Mall via US 40 and SR 7 | Yes         | 2000-2019     |
|                       | Transit Package 2 - New Express and Local Bus Routes | SR 896 - Newton Rd Local / Express Bus   | No          |               |
|                       | Transit Package 2 - New Express and Local Bus Routes | US 40 / US 13 Harford County Line to Downtown Wilmington Local Bus             | No          |               |
|                       | Transit Package 2 - New Shuttle Service              | Prices Corner - Churchman's Crossing Shuttle                                   | No          |               |
|                       | Transit Package 2 - New Shuttle Service              | Medical Shuttle  | No          |               |
|                       | Transit Package 2 - New Shuttle Service              | University Plaza Shuttle   | No          |               |
|                       | Transit Package 2 - New Shuttle Service              | MBNA Shuttle   | Terminated  | 1997-2007     |
|                       | Transit Package 2 - New Shuttle Service              | US 40 - Churchman's Crossing Shuttle / Local Bus                               | No          | 1997          |
|                       | Intersection Improvements                            | SR 4 / Harmony Road  | No          |               |
|                       | Intersection Improvements                            | SR 4 / Churchman's Road  | No          |               |
|                       | Intersection Improvements                            | SR 4 / SR 7 Christiana Center  | Yes         | 1996-2005     |
|                       | Intersection Improvements                            | SR 273 / SR 7  | Partial     | 1996-2002     |
|                       | Intersection Improvements                            | SR 7 / SR 4/7 Split (Stanton)  | No          |               |
|                       | Intersection Improvements                            | Road A / Southbound SR 1 Ramps (Dual)  | Yes         | Under constr. |
|                       | Intersection Improvements                            | SR 7 / Churchman's Road / Southbound SR 7 Ramps                                | Yes         | 1996-2002     |
|                       | Intersection Improvements                            | SR 2 / Churchman's Road Extended   | No          |               |
|                       | Intersection Improvements                            | SR 2 / SR 7  | Yes         | 1996-2002     |
|                       | New Roadway Connections                              | Churchman's Road Extension, SR 4 to SR 2                                       | No          |               |
|                       | New Roadway Connections                              | Ramp from Churchman's Road to Northbound I-95                                  | No          |               |
|                       | New Roadway Connections                              | Christiana Bypass, I-95 to Road A  | Partial     | 2018-2019     |
|                       | New Roadway Connections                              | Newtown Road Extensions: SR 7 to SR 1, Including North Serving Ramps           | No          |               |
|                       | New Roadway Connections                              | SR 7 / SR 58 Interchange   | Yes         | 1996-2002     |
|                       | Related Regional Projects                            | I-95 HOV lane (not barrier-separated)  | No          |               |
|                       | Related Regional Projects                            | SR 1 / I-95 interchange improvements   | Yes         | 2011-2016     |

# Summary



- New database developed to assist team(s) working on the next phase of Churchman's Crossing that documents existing 2019 (or most recent) conditions
- Churchman's Crossing: 20 Years of Data
  - Land Use Update
    - 4.8 MSF developed since 1997
  - Multi-modal Update
    - Commuter rail ridership increased 70% since 2004 and more than doubled since Fairplay Station opened in 2000
    - 16 existing bus routes (2019) compared to 19 bus routes in 2003
    - Park & Ride usage steady at some locations, declined at others
  - Traffic Update
    - 9 (AM) and 14 (PM) intersections operate at LOS E or LOS F (based on HCS methodology)
    - 5 key intersections exhibit stable traffic operations over time
  - Safety Analysis
    - 3 "Top 10" intersections in Statewide Crash Rankings
    - Continued trend of increasing crashes (2008 – 2017)